MARCH 1, 1953

MODERN MEDICINE

The Journal of Diagnosis and Treatment

Dr. E. Perry McCullagh
(see page 9)

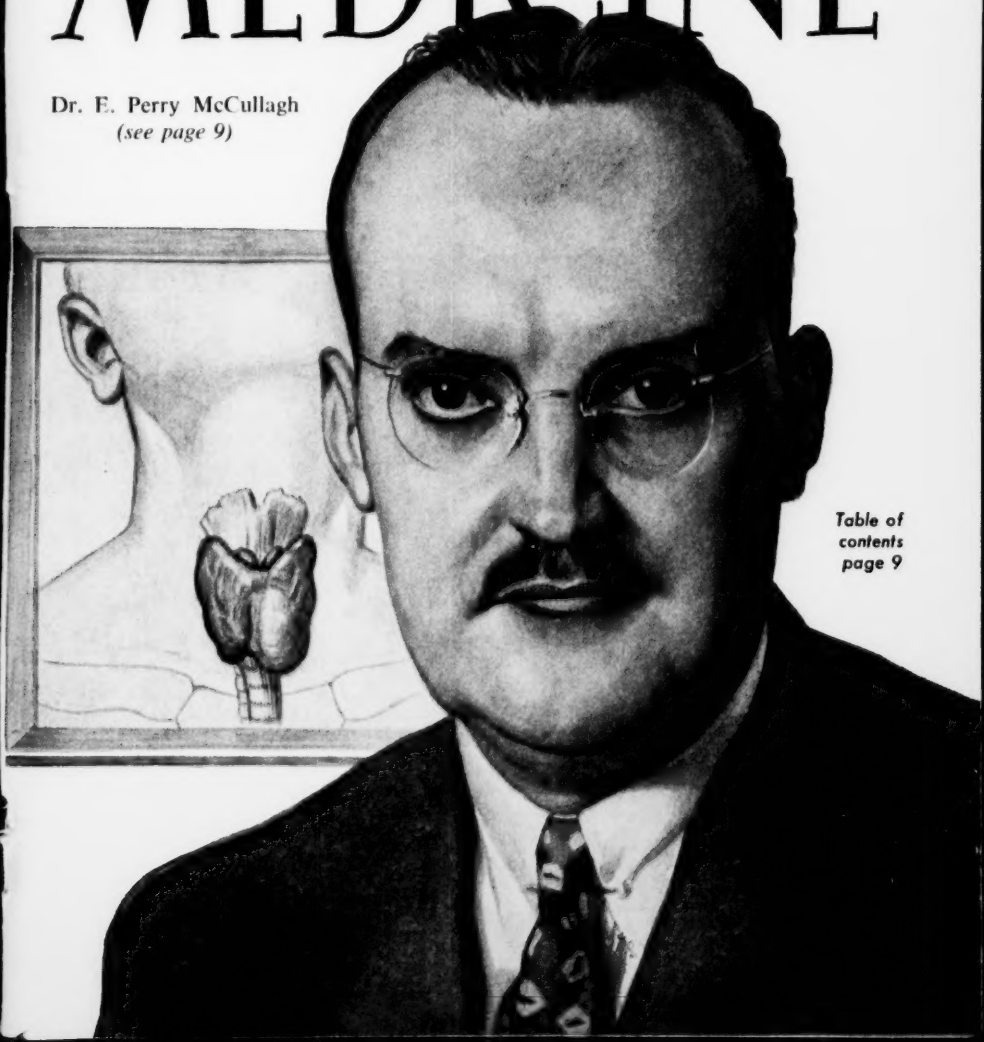
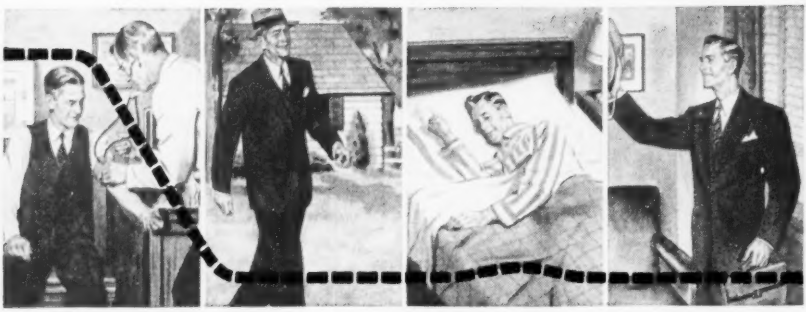


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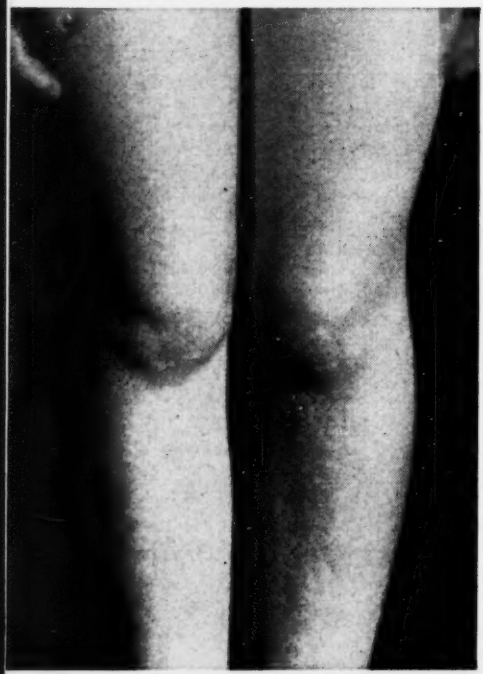
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1. Bigger, J.W.: Lancet, *2*:46, 1950.
2. Herrell, W.E.: Penicillin and Other Antibiotic Agents, W.B. Saunders, Philadelphia, 1945.



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MODERN MEDICINE, The Journal of Medical Progress, of Minneapolis, Minn., is published twice monthly on the first and fifteenth of each month, at 55 East 10th Street, St. Paul 2, Minn. Subscription rate: $10.00 a year. 50c a copy.

ADDRESS ALL CORRESPONDENCE TO 84 SOUTH 10TH STREET, MINNEAPOLIS 3, MINN.

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●

THE MAN ON THE COVER is Dr. E. Perry McCullagh of Cleveland, Head of the Endocrinology and Metabolism Section at the Cleveland Clinic. Diplomate of the American Board of Internal Medicine and fellow of the American College of Physicians, Dr. McCullagh is a member of the Central Society for Clinical Research, American Diabetes Association, Association for the Study of Internal Secretions, and American Federation of Clinical Research. The report on page 68, "Radioactive Iodine for Hyperthyroidism," is based on an article appearing originally in the *Annals of Internal Medicine.*



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"When in Doubt..."



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1. Kauffmann, F.: American Prac. 2:146-150 (Feb.) 1951.
2. Gutman, A. B.: The Bulletin of the N. Y. Acad. M. 27:144-164 (March) 1951.

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LETTER FROM THE EDITOR

Dear Reader:

Editors, at least *Modern Medicine* editors, do not live in ivory towers. All the physicians on the National Editorial and Consultant Boards are meeting clinical problems in their practices every day. When they turn their attention to editorial matters they bring a practical, clinical viewpoint to the task. They are sympathetic to the questions that readers bring up and prepare conscientious answers, all as a part of the service which *Modern Medicine* wants to give its readers.



This ideal of service permeates the entire organization. The other day, for example, a call came in from a distracted nurse who was trying to trace a report on treatment of carbon tetrachloride poisoning that had appeared in *Modern Medicine*. The issue had been mislaid and an urgent demand had risen for the information. Within minutes the information was delivered to the doctor's office.

Later that day, another call came from a physician who had a patient with a refractory urinary tract infection. He recalled reading of a new agent that had been used successfully in a like situation but he could not remember the name. Could *Modern Medicine* help him? We could and the doctor was able to wire for a supply of the drug which was delivered by air-express to the hospital the next morning.

When in this way we can help a doctor, we are glad. It helps us to make *Modern Medicine* not only a collection of printed pages but a symbol of service and good will to the whole medical profession.

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Awards Outstanding

TO THE EDITORS: Your *Modern Medicine* Awards for Distinguished Achievement *(Modern Medicine,* Jan. 1, 1953, p. 60) are an outstanding contribution to our world of medical service.

RONALD E. CLARK, M.D.
Detroit

Impressed with Forum

TO THE EDITORS: As a reader of *Modern Medicine* for well over ten years, I am deeply impressed with the material and manner of presentation.

Not only are the subjects well discussed in spite of necessary abbreviation, but exceptionally well handled are various medically controversial views, such as treatment of varicose veins in pregnancy and the effects of tobacco smoking, to mention but two of the most recent ones. I am particularly impressed with the Medical Forum department and have little to add except to say, "I like it."

The synopsis of medical articles as Basic Science Briefs and Short Reports is also exceptionally well presented, and makes for ease of reading and comprehension.

EPHRAIM LUBRITZ, M.D.
New Orleans

Thesis Challenged

TO THE EDITORS: I am sure that you do not intentionally perpetuate scientific error.

In the last few years the only articles that I have read in your columns on the subject of nonarticular and psychogenic rheumatism have reiterated the ideas of Boland and Corr of a decade ago. The last such article I saw, a condensation of a paper by Dr. Richard Freyberg published in the *Bulletin of the New York Academy of Medicine,* was of the same cloth *(Modern Medicine,* June 15, 1951, p. 65).

To correct any misconceptions it might be well to publish something a bit more in line with modern trends of thought.

Whereas the psychosomatic concept has been accepted in other fields there has never been any widely publicized contradiction to the thesis still vigorously current in the musculoskeletal field that the cause of joint or muscle complaint must be either purely physical or else purely psychic.

A new concept challenges this thesis and classifies the following current concepts as unrealistic:

- That there is a disorder, "psychogenic rheumatism," which is not a

(Continued on page 26)

Controls Useless Nagging Cough

Syrup 'Histadyl E.C.'° is an effective combination of:

Codeine Phosphate (1 gr. per fl. oz.)
a bronchial sedative

Ephedrine Hydrochloride (1/2 gr. per fl. oz.)
a bronchodilator

Thenylpyramine Fumarate (1 1/3 grs. per fl. oz.)
an antiallergic

and Ammonium Chloride (10 grs. per fl. oz.)
an expectorant

in a pleasantly flavored syrup acceptable to both children and adults. It is available on prescription at pharmacies everywhere.

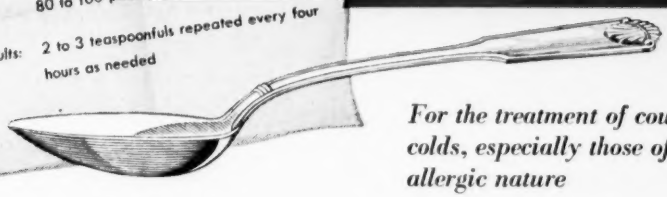
°Federal record of sale required.

Eli Lilly and Company
Indianapolis 6, Indiana, U.S.A.

DOSAGE

Children: 30 to 50 pounds, ½ to 1 teaspoonful
50 to 80 pounds, 1 to 1½ teaspoonfuls
80 to 100 pounds, 1½ to 2 teaspoonfuls

Adults: 2 to 3 teaspoonfuls repeated every four hours as needed



Lilly

For the treatment of coughs and colds, especially those of an allergic nature

SYRUP

'Histadyl E.C.'

(THENYLPYRAMINE COMPOUND E.C., LILLY)

ANOTHER STEP FORWARD IN A NEW FIELD OF THERAPY

Recognition of premenstrual tension as a condition requiring specific treatment was pioneered by the introduction of M-Minus 4. In addition to directing attention to this prevalent condition, the product has also given substantial relief in a large percentage of the cases treated.

Another step forward is the announcement of M-Minus 5—an improvement in the formula, and offering definite advantages in both effectiveness and tolerance.

M-Minus 5 now contains *pamabrom*, a new chemical entity which inhibits the ADH (anti-diuretic hormone) of the posterior pituitary. This hormone is held responsible for the unpleasant symptoms of water toxemia—breast engorgement and tenderness, abdominopelvic swelling, cramps and backache, as well as the psychic changes which occur during the premenstrual and early menstrual period.[1-5]

IN PREMENSTRUAL AND
MENSTRUAL DISTRESS

M-MINUS 5

TRADE MARK

ADDED THERAPEUTIC EFFICIENCY

Controlled laboratory tests show this compound to have a 20 percent greater diuretic efficiency than M-Minus 4.

ABSENCE OF DROWSINESS

With M-Minus 5 no drowsiness or dizziness is reported. Control tests fail to reveal any toxic effects.

The therapeutic potential of M-Minus 5 is further enhanced with a reliable analgesic for the control of pain and lessening of irritability, anxiety, insomnia. M-Minus 5 does not upset the normal hormonal balance of the menstrual cycle; will not cause the patient to feel "drugged" or sleepy.

FORMULA: each capsule contains—

2-amino-2-methyl-1-propanol-8-bromotheophyllinate (pamabrom).....50 mg.
Acetophenetidin.....100 mg.

Bottles of 24 and 100 tablets

Whittier
LABORATORIES
Chicago 11, Illinois
DIVISION NUTRITION RESEARCH LABORATORIES, INC.

REFERENCES:

1. Verney, E. G.: Lancet 2:781 (1946).
2. Bickers, W.: New England J. M. 243:645 (1950).
3. Robinson, F. H. and Farr, L. E.: Ann. Int. M. 14:42 (1940).
4. Lloyd, C. W. and Lobotsky, J.: Am. J. M. 7:419 (1949).
5. Vainder, M. I.: (in press).

WHEN AN

Analgesic IS *Indicated*



DEPEND ON



ANACIN FOR *Effectiveness*

When symptoms indicate the use of a dependable analgesic for relief of pain, consider the effectiveness of time-tested Anacin. The skillfully compounded APC formula as provided in Anacin Tablets, offers *rapid* analgesia and prolonged relief, ease of oral administration plus the added advantage of economy. Your patients will be grateful for these considerations. Anacin is available at *all* pharmacies for their convenience.

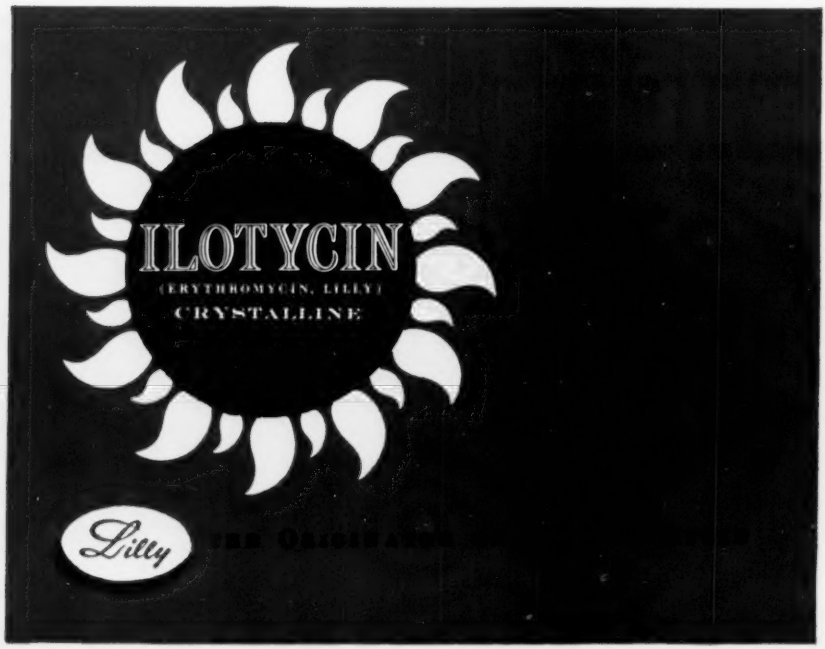
WHITEHALL PHARMACAL COMPANY, 22 E. 40th St., N. Y. 16, N. Y.



physical disease, but which includes hysterical and imaginary maladies
- That no actual joint disease can result from mental conflict
- That "nonarticular rheumatism" is a distinct category
- That "fibrositis" is never psychogenic
- That "degenerative arthritis" is due purely to senescence, and that the "secondary fibrositis" which accompanies it is due to senile relaxation of the capsule and surrounding tissues.

The new concept, based on the study of many hundreds of arthritis clinic and private patients and on a statistical study of 400 arthritis clinic patients, is that hysteria and purely functional symptoms are rare, that nonarticular manifestations without arthropathy are also rare, and that the commonest musculoskeletal pain syndrome has the following features in combination:

1] A characteristic emotional state of repressed resentment, anxiety, and tension, stemming from a life situation calculated to produce such a state, usually in an individual whose psychosocial, psychosexual, and psychosomatic development and adjustment have been handicapped by gross childhood emotional trauma
2] Circumscribed areas of muscular and/or periosteal tenderness (often responsive to cortisone therapy while such therapy is continued)
3] Evidence on physical examination of subjective or objective arthropathy, in some instances acute, usually osteoarthritic
4] An elevated erythrocyte sedimentation rate in many cases





March Winds *and* April Showers

Accentuate the painful and disabling symptoms of chronic arthritis.

Treatment with adequate amounts of Vitamin D in conjunction with all other essential Vitamins has been shown to have definite value in slowing the progress of the disease.

DARTHRONOL—combining Vitamin D in adequate dosage with balanced amounts of 8 other Vitamins—effectively lessens the pain, increases the functional activity and helps preserve the self-sufficiency of the chronic arthritic.

Each capsule contains:

Vitamin D	50,000 U.S.P. Units
Vitamin A	5,000 U.S.P. Units
Vitamin C	75 mg.
Vitamin B_1	3 mg.
Vitamin B_2	2 mg.
Vitamin B_6	0.3 mg.
Niacinamide	15 mg.
Calcium Pantothenate	1 mg.
Mixed Tocopherols (Type IV)	4 mg.



Darthronol

J. B. ROERIG AND COMPANY • 536 LAKE SHORE DR., CHICAGO 11, ILL.

when she's always too tired...



IT's more than her work. It's a problem you encounter often—iron-deficiency anemia with the usual nutritional deficiencies.

By prescribing one IBEROL tablet t.i.d., you assure her of a *therapeutic dose of iron*, seven B complex factors including B_{12}, standardized stomach-liver digest and ascorbic acid.

There's no unpleasant liver odor or taste. Each triple-coated, compressed tablet has an outer sugar coating to mask the iron.

For pregnancy, old age or convalescence, one or two IBEROL tablets daily are usually enough. In pernicious anemia, IBEROL may be used as a supplemental hematinic. Available in bottles of 100, 500 and 1000. Abbott

THREE IBEROL TABLETS,
the daily therapeutic dose, supply:

→ Ferrous Sulfate	1.05 Gm.
(representing 210 mg. elemental iron, the active ingredient for the increase of hemoglobin in the treatment of iron-deficiency anemia)	
Plus these nutritional constituents:	
Thiamine Mononitrate (6 times MDR*)	6 mg.
Riboflavin (3 times MDR*)	6 mg.
Nicotinamide (2 times RDA†)	30 mg.
Ascorbic Acid (5 times MDR*)	150 mg.
Pyridoxine Hydrochloride	3 mg.
Pantothenic Acid	6 mg.
→ Vitamin B_{12}	30 mcg.
Folic Acid	3.6 mg.
Stomach-Liver Digest	1.5 Gm.

*MDR—Minimum Daily Requirement
†RDA—Recommended Daily Dietary Allowance

prescribe **IBEROL®**

(Iron, B_{12}, Folic Acid, Stomach-Liver Digest, with other Vitamins, Abbott)

1-120

5] Therapeutic responsiveness, in many cases, to an improvement in the life situation or to an alteration of the attitude of the patient toward the situation.

In the unscientific words of the old terminology, the majority of musculoskeletal pain sufferers might be said to have "psychogenic rheumatism" superimposed on "fibrositis" which is superimposed on "degenerative arthritis" sometimes of an "unusual type" because the erythrocyte sedimentation rate is somewhat elevated and some joints might at some time be acutely inflamed so that the possibility of mixed arthritis and rheumatoid arthritis has to be considered.

In reality this is all just one disease characterized by psychoneurosis, muscular tenderness, arthropathy of various degrees—usually osteoarthritis—and often by an elevated erythrocyte sedimentation rate. The same syndrome may exist without muscular hyperesthesia being present at the time of examination.

JED H. IRVINE, M.D.
New York City



"I'd say that knee is just about ready for basketball again."

IN RHEUMATIC FEVER and RHEUMATOID ARTHRITIS

Maximum salicylate levels with maximum safety



A-C-K TABLETS

safely bring relief to those patients who require massive, sustained dosage of salicylates.

*A-C-K Tablets (G. F. Harvey) combine Aspirin with Vitamin C and Vitamin K in a proven, effective, *sodium-free* combination which allows therapeutically high blood levels of salicylate with maximum safety.

By furnishing adequate replacement amounts of Vitamin C and Vitamin K in each tablet, A-C-K guards against lowered prothrombin level, hemorrhage, and other toxic manifestations of the salicylates.

Each tablet contains
Acetylsalicylic Acid 333 mg. (5 gr.)
Ascorbic Acid.....33.3 mg. (½ gr.)
Menadione.....0.33 mg. (1/200 gr.)
Dosage: 2 tablets every 2 hours, or as directed by the physician.

Literature and samples available upon request

*(A development of the Wisconsin Alumni Research Foundation)

The G. F. HARVEY CO.
(Home of Saratoga Ointment)
Saratoga Springs, N. Y.
Dallas, Texas Los Angeles, Cal.

a 3-way attack on intranasal infection

'Drilitol' provides

1. double antibiotic action

'Drilitol' contains 2 antibiotics—anti-gram-positive gramicidin and anti-gram-negative polymyxin—to attack bacterial infection.

2. decongestive action

'Drilitol' contains the vasoconstrictor—Paredrine† Hydrobromide—to relieve intranasal congestion.

3. anti-allergic action

'Drilitol' contains the antihistaminic—thenylpyramine hydrochloride—to counteract local allergic manifestations.

'Drilitol' is indicated for the treatment of common upper respiratory tract disorders such as: rhinitis, nasopharyngitis, bacterial colds, sinusitis, coryza and allergic rhinitis.

Drilitol*

antibiotic, decongestive, anti-allergic

Smith, Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off.
†T.M. Reg. U.S. Pat. Off. for hydroxyamphetamine hydrobromide, S.K.F.

in prescribing,

be sure to specify:



'Drilitol Spraypak'

℞

Drilitol Spraypak
spray 3 or 4 times in
each nostril every 3 hours

OR



'Drilitol' Solution

℞

Drilitol Solution
1 dropperful in each nostril
4 or 5 times a day

Questions & Answers

All questions received will be answered by letter directed to the petitioner; questions chosen for publication will appear with the physician's name deleted. Address all inquiries to the Editorial Department, MODERN MEDICINE, *84 South Tenth Street, Minneapolis 3, Minnesota.*

QUESTION: What might the reactions be after taking an antihistaminic drug and beer?

M.D., Oregon

ANSWER: *By Consultant in Allergy.* In some individuals the administration of antihistamines and the ingestion of alcohol may aggravate or precipitate the side reactions of the antihistamines. Drowsiness, dizziness, or irritability has been observed.

QUESTION: Is a polycystic kidney involving one-third of the parenchyma of one kidney progressive?

M.D., New York

ANSWER: *By Consultant in Urology.* A polycystic kidney is one in which innumerable cysts are distributed throughout the substance of the affected kidney. This condition is almost invariably bilateral. Multiple cysts involving one-third of the parenchyma of one kidney cannot properly be classed as polycystic disease but should be regarded as localized multiple cysts. Longevity should not be affected since multiple cysts rarely become large enough to cause a problem.

On the other hand, if "involving one-third of the parenchyma of one kidney" means cysts throughout the kidney with destruction estimated at about one-third of the renal substance, the above answer is not correct and the condition might be polycystic disease, which is always progressive. However, the rate of progress varies so widely from one patient to another that the length of time required for complete destruction of the kidney cannot be estimated accurately.

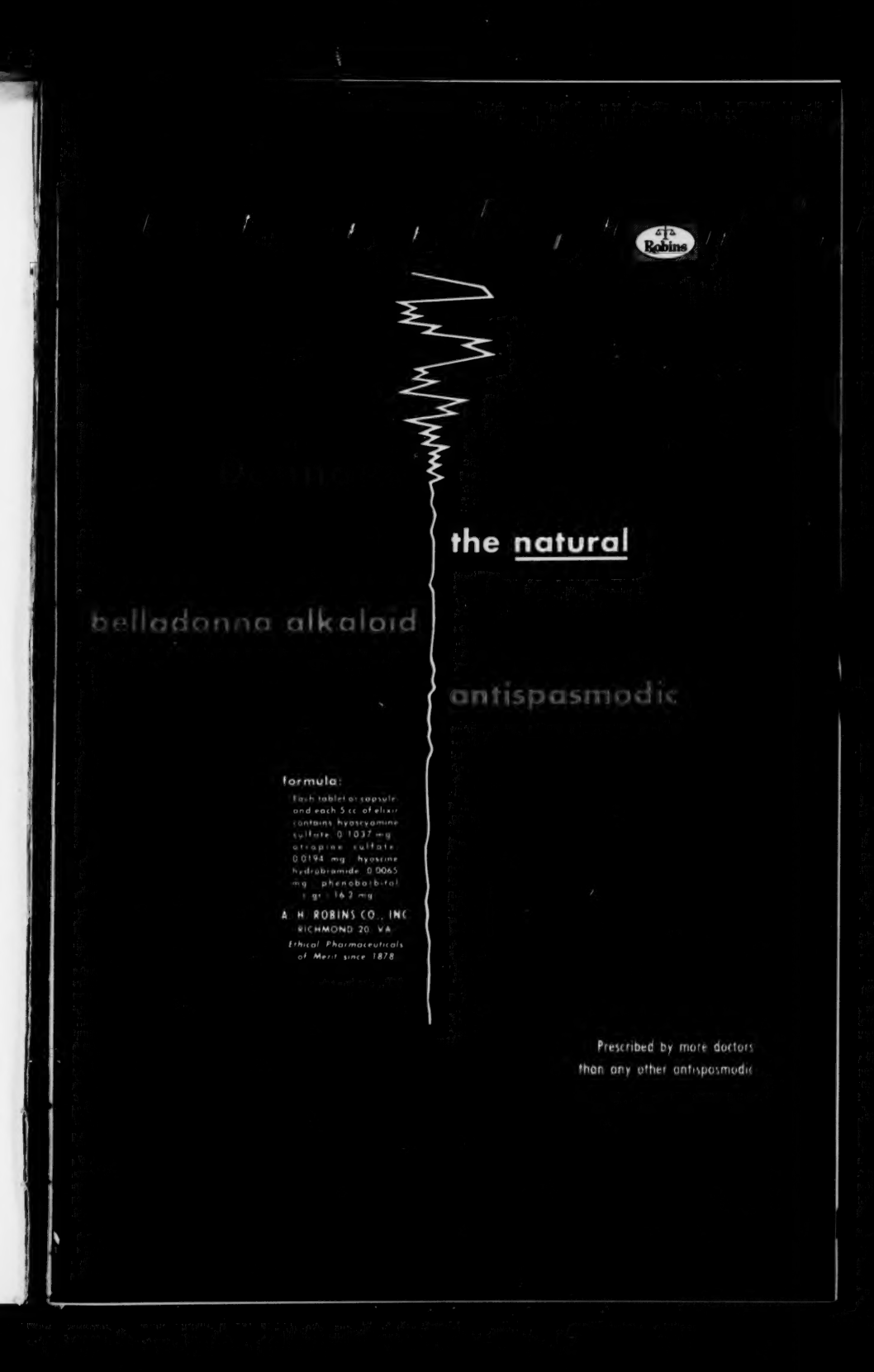
To differentiate between these two conditions, a good excretory urogram or retrograde pyelogram is necessary.

QUESTION: What is the quinine therapy dosage and schedule for night cramps of the calves of the leg?

M.D., Illinois

ANSWER: *By Consultant in Internal Medicine.* In some cases, 3 gr. of quinine sulfate given at bedtime is adequate. If spasm habitually begins just after retiring, 3 gr. should be given after supper and again at bedtime. The drug acts directly on muscle rather than on the myoneural junction, producing a refractory period in skeletal muscle.

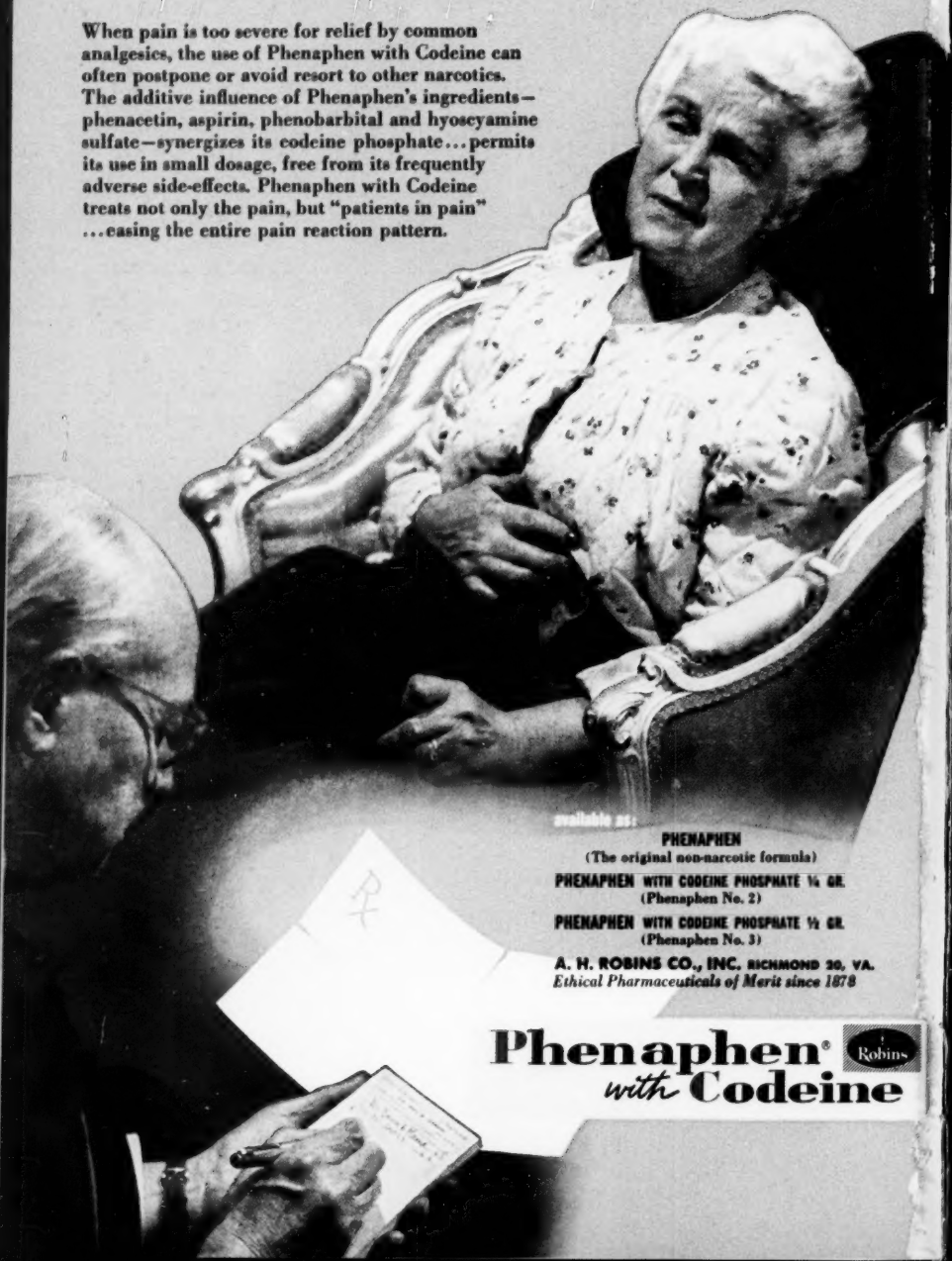
Pain is usually relieved and may be completely abolished the first or second night. Occasionally cramps become less severe or less frequent, then eventually cease, and do not recur after medication is stopped.


Robins
the natural
belladonna alkaloid
antispasmodic
formula:
Each tablet or capsule and each 5 cc of elixir contains hyoscyamine sulfate 0.1037 mg. atropine sulfate 0.0194 mg. hyoscine hydrobromide 0.0065 mg. phenobarbital ¼ gr. 16.2 mg.
A. H. ROBINS CO., INC.
RICHMOND 20, VA.
Ethical Pharmaceuticals of Merit since 1878
Prescribed by more doctors than any other antispasmodic

for **full** *codeine analgesia*

on **small** *codeine dosage . . .*

When pain is too severe for relief by common analgesics, the use of Phenaphen with Codeine can often postpone or avoid resort to other narcotics. The additive influence of Phenaphen's ingredients—phenacetin, aspirin, phenobarbital and hyoscyamine sulfate—synergizes its codeine phosphate . . . permits its use in small dosage, free from its frequently adverse side-effects. Phenaphen with Codeine treats not only the pain, but "patients in pain" . . . easing the entire pain reaction pattern.



available as:

PHENAPHEN
(The original non-narcotic formula)

PHENAPHEN WITH CODEINE PHOSPHATE ¼ GR.
(Phenaphen No. 2)

PHENAPHEN WITH CODEINE PHOSPHATE ½ GR.
(Phenaphen No. 3)

A. H. ROBINS CO., INC. RICHMOND 20, VA.
Ethical Pharmaceuticals of Merit since 1878

Phenaphen® Robins
with **Codeine**

QUESTION: We are attempting to write a directive in order to avoid destruction of pregnancy hormones in specimens sent to the laboratory so that the tests may be as accurate as possible. Some scientific basis is needed to quote the effects of heat and of bacterial contamination, temperature maintenance, and so forth. Can you offer any suggestions?

M.D., Maryland

ANSWER: *By Consultant in Pathology.* Kolmar and Boerner in *Approved Laboratory Technique* (4th ed., pp. 294-299) present a complete review of the standard pregnancy tests. The following precautions are recommended:

1] Collect the morning specimen of urine before breakfast.

2] Restrict the patient's fluid intake the evening before the collection in order to increase the concentration of the hormone in the urine. The patient should not take aspirin, quinine, or barbiturates for at least twenty-four hours before collecting the urine, since these drugs will kill a rabbit.

3] The bottle or container for collecting the urine should be cleansed with soap and water and dried thoroughly; alcohol should not be used.

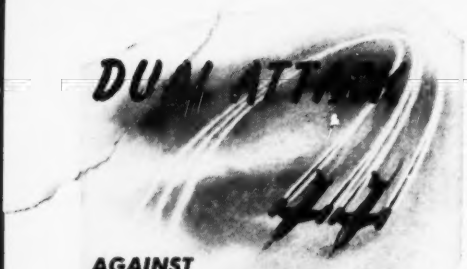
4] If the specimen is to be mailed to the laboratory, a drop of tricresol per ounce of urine is recommended. This acts as a preservative and does not destroy the hormone.

5] Properly preserved specimens do not lose hormonal potency for at least six days.

6] The urine, if alkaline in reaction, should be made slightly acid with a few drops of 50% acetic acid.

7] A clear urine need not be filtered, but urine that is cloudy because of phosphates, urates, pus, or





AGAINST

URINARY INFECTION

urised

CHIMEDIC

Through its *rapid, dual action,* URISED effectively combats the two primary causes of pain, burning, urgency, dysuria and frequency, in genito-urinary infections.

URISED exerts the prompt antibacterial action of methenamine, salol, methylene blue and benzoic acid along the entire urinary tract—to rapidly reduce irritation, spasm and the pus cell count—encourage healing of the mucosal surfaces.

URISED rapidly relaxes painful smooth muscle spasm and aids in the restoration of normal tone through the dependable parasympatholytic action of atropine, hyoscyamine and gelsemium.

Literature available on request.

For more prompt, dependable control of pyelitis, cystitis and urethritis, specify

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5547 N. Ravenswood Ave., Chicago 40, Illinois
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blood should be filtered. If clouded by bacteria, detoxification can be done by adding 30 cc. of urine to 90 cc. of ether in a separatory funnel and shaking vigorously three to five minutes. The ether simultaneously removes practically all toxic substances besides the estrin present in the urine of pregnant women. The urine is then separated, filtered, and allowed to stand in open air in a large casserole for one hour. Then 0.9 gm. of glucose is added to the urine and dissolved.

8] The urine should be refrigerated between injections and gently warmed to 37° C. in a water bath before injection. The temperature of the water bath should not exceed 50° C., since a temperature of 60° C. would destroy the hormone.

The hormone is more active in an acid medium, with *p*H 6.5 to 7. If the specific gravity of the urine is less than 1.020, a portion should be saved for a second injection of 10 cc. the next day. Rabbits, if used, should be not less than 17 weeks old, should weigh over 4 lb., and should be isolated from all other rabbits for eight to nine weeks before the test.

QUESTION: I have a patient who cannot tolerate digitalis therapy well and I am contemplating changing to gitalin. At present she is using a standard digitalis leaf preparation, 0.1 gm. daily of Digifortis. On what schedule should such a transfer be made in order to avoid cumulative effects from Digifortis? If this patient were using digitoxin, what dosage schedule should be followed in changing to gitalin?

M.D., Texas

ANSWER: *By Consultant in Cardiology.* The average equivalent doses for a patient transferring from digi-



the "confidence-inspiring" doctor

prescribes Orthoxine *with confidence* in asthma, because it is an effective oral bronchodilator, yet exerts only 1/2,000 the pressor effect of epinephrine, and so little CNS stimulation that sedatives are unnecessary.

Orthoxine*

HYDROCHLORIDE

BRAND OF METHOXYPHENAMINE

Tablets: bottles of 100 and 500

Orthoxine Hydrochloride is *beta-(ortho*-methoxyphenyl)-isopropyl-methylamine hydrochloride—a bronchodilator and antispasmodic made by an exclusive Upjohn process.

For adults: 50 to 100 mg. (½ to 1 tablet)
For children: half the dose
For both: repeat every 3 to 4 hours as required

**Trademark Reg. U.S. Pat. Off.*

A product of

Upjohn Research

for medicine... produced with care... designed for health

THE UPJOHN COMPANY, KALAMAZOO, MICHIGAN

PERTUSSIN

for

COUGHS

The effect of PERTUSSIN'S active ingredient, Extract of Thyme (made by the unique Taeschner Process) is to:

- Relieve dryness by stimulating tracheobronchial glands and increasing natural secretions.
- Facilitate expulsion of viscid or infectious mucus.
- Exert a soothing and mild sedative effect on irritated mucous membranes.

PERTUSSIN is entirely free from harmful ingredients of any kind. It is well tolerated—without undesirable side action. It may be given to children and adults in large doses and is pleasant to take.

Samples on request

SEECK & KADE, Inc.

New York 13, N. Y.

talis or digitoxin to gitalin are: digitalis leaf, 0.1 gm.; digitoxin, 0.1 mg.; and gitalin, 0.5 mg. Thus, if a patient has been taking 0.1 gm. daily of Digifortis, he should receive 0.5 mg. of gitalin.

Cumulative effects from any digitalis preparation cannot be avoided. The question of therapeutic range exists for any patient with advanced heart disease. When the toxic dose may occur simultaneously or at a lower level than the therapeutic dose, digitalis therapy may be impossible to institute because toxicity would occur with all preparations with equivalent dosages. However, if the patient has a narrow range where overshooting is common with digitalis leaf or digitoxin, then gitalin may be satisfactory in equivalent doses because of its greater therapeutic range. If the patient tolerates equivalent doses of gitalin and is still decompensated, the dose of gitalin can probably be increased to the next dose level—increments of 0.25 mg.—until decompensation is controlled or toxicity occurs. In many cases, digitalization can be achieved with a higher equivalent dose than with digitalis leaf or digitoxin.



"He needs an ear check, Doctor. Lately he hasn't heard a word I say."

for peptic ulcer patients
8 hours' relief from a single dose

PRANTAL RA
TABLETS

first repeat action anticholinergic



Four to 6 hours' relief from 50 mg. *outer* dose

Then another 4 to 6 hours' relief from 50 mg. *inner* dose

less frequent dosage
uninterrupted night rest
greater freedom from side effects

PRANTAL*
3 forms for more flexible therapy

PRANTAL Repeat Action Tablets, 100 mg.
Dosage: One or two tablets every eight hours.
PRANTAL Tablets (plain), 100 mg., scored.
Dosage: One or two tablets every six hours.
PRANTAL Injection (subcutaneous or intramuscular), 25 mg. per cc., 10 cc. vials.
Dosage: 0.5 mg. per Kg. of body weight every six hours.

*T.M. Brand of diphenemethanil methylsulfate

Schering CORPORATION · BLOOMFIELD, NEW JERSEY

PRANTAL RA
SCHERING

Forensic Medicine

ARTHUR L. H. STREET, LL.B.

Prepared especially for Modern Medicine

PROBLEM: Was a psychiatrist employed at a federal insane asylum subject to suit as for alleged slander and libel for official reports that plaintiff, an inmate of the asylum, was paretic, psychotic, or insane?

COURT'S ANSWER: No.

The U. S. District Court, Eastern District of Kentucky, decided that the case came within the general rule that a federal official is immune from liability for a mistake of fact in exercising official discretion, even if malice or bad motive is involved (102 Fed. Supp. 7).

PROBLEM: In a personal injury suit, was plaintiff properly required by the trial judge to submit to physical examination by defendant's doctor, without being furnished a copy of the doctor's report?

COURT'S ANSWER: Yes.

The New Hampshire Supreme Court said that there might be circumstances in which the death or unavailability of a party or witness or other reasons would require that the report be made available to the adverse party, but that in this case no good reason was shown. The court noted generally:

Physical examinations are usually had by agreement between the parties, but a court has inherent power to order one when, in exercise of discretion, it is deemed necessary. The rights of the examined party must be safeguarded by reasonable conditions, and the court may, in a proper case, require that a copy of the report be delivered to him. It is not enough that the party examined wants a copy to save the expense of an independent examination by his own doctor (92 Atl. 2d 161).

PROBLEMS: The statutes of Massachusetts penalize unlawful administration or prescription of a drug for a woman with intent to abort her, or use of an instrument with such intent. [1] To convict, is it necessary to prove that abortion or death resulted? [2] Did use of a syringe and hot water solution constitute use of an "instrument"? [3] Did giving a woman 4 ergot tablets and telling her to use them if another attempt to abort her failed constitute administration and prescription within the statute? [4] Were declarations made by the woman the day before her death admissible in evidence in a prosecution as a dying declaration, it appearing that last religious rites had been administered to her and that she had said that she was very ill and did not expect to recover?

COURT'S ANSWERS: [1] No. Death merely aggravates the offense and increases the penalty. [2] Yes. [3] Yes. [4] Yes.

So decided the Massachusetts Supreme Judicial Court (109 N. E. 2d 171).

PIONEERING

the first true Hematopoietic stimulant in anemia

RONCOVITE*

Specific Bone Marrow Stimulation in Anemia

Medical research has recently proved that full therapeutic doses of cobalt exert a consistent and pronounced hematopoietic effect on bone marrow—a property which has not been demonstrated by any other compound.

Roncovite, the pioneer cobalt-iron preparation, has a remarkably rapid stimulating effect on the human blood producing mechanism. Because of this action, Roncovite opens an entirely new field in the therapy of human anemia.

The mechanism of the "cobalt effect" has been shown to differ completely from the "catalytic" effect of trace elements and from that of vitamin B_{12}.

HEMATOPOIETIC EFFECT OF COBALT

Effect on Erythrogenesis and Hemoglobin

Pharmacologically, it is now well established that cobalt administration causes a rapid and striking hematopoietic response. An initial increase in reticulocytes is promptly followed by pronounced increases in the red cell count and in hemoglobin. [1,2,6,7,17,18,19,20,25] The bone marrow undergoes progressive hyperplasia of all cellular elements[13] and shows increased numbers of erythrocyte precursors.[8,9]

In experimentally induced anemia, cobalt accelerates recovery from hemorrhage,[8] overcomes the hemopoietic depression due to inflammation[10] and is superior to iron, copper-iron, liver extract or vitamin B_{12} in preventing the anemia produced by hypophysectomy.[24]

See next page for clinical results

*TRADEMARK

PIONEERING

THE FIRST TRUE HEMATO

Clinical Results

Early reports on the use of cobalt in the treatment of human anemia have been extended and clarified by recent clinical investigations.

In anemic infants and children a definite pattern of response follows Roncovite therapy with increases in erythrocytes and hemoglobin levels. An average weekly gain of 250,000 erythrocytes and 0.6-0.7 Gm. of hemoglobin has been reported,[13,27] despite the fact that many of the children so treated had failed to respond to iron.

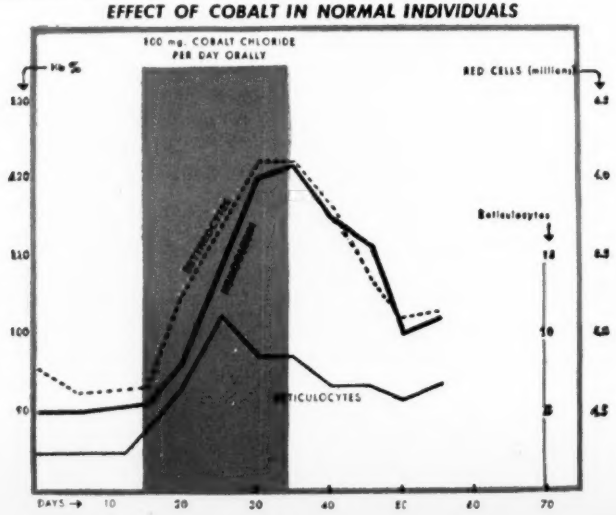
Striking results likewise have been reported in adult secondary anemia.[16,23,26]

As one investigator[15] summarizes:

—the anti-anemia effect of cobalt can be expected in anemias where the bone marrow is capable of regenerative action. In such cases the hematopoietic effect is even greater than in the normal individual and is proportional to the severity of the anemia.

Marked erythrocyte increases, often of 50% or more of the initial value, are noted. In addition, if adequate iron reserves are present, parallel increases in hemoglobin are characteristic.

EFFECT OF COBALT IN NORMAL INDIVIDUALS



RONCOVITE *
POIETIC STIMULANT IN ANEMIA

Roncovite (Cobalt and Iron) For Full Effect

The erythropoietic effect of cobalt does not depend on the presence of iron, since cobalt administration alone will cause erythrogenesis even in the presence of iron deficiency and may lead, in this way, to a hypochromia.[19] Since iron is necessary for hemoglobin synthesis, Roncovite provides ferrous sulfate to insure adequate iron reserves and thus permits hemoglobin increases to accompany erythrogenesis under the influence of cobalt.

Clinical Applications of Roncovite

Cobalt therapy has given excellent results in secondary anemia accompanying chronic inflammatory diseases, infections, tuberculosis, chronic hemorrhage, pregnancy, iron deficiency anemia, idiopathic hypochromic anemia, erythrogenic hypoplastic and hypochromic microcytic anemia.

Dosage

The recommended daily dose of 4 Roncovite Tablets provides 60 mg. cobalt chloride.

The recommended daily dose of 0.6 cc. of Roncovite Drops provides 40 mg. cobalt chloride.

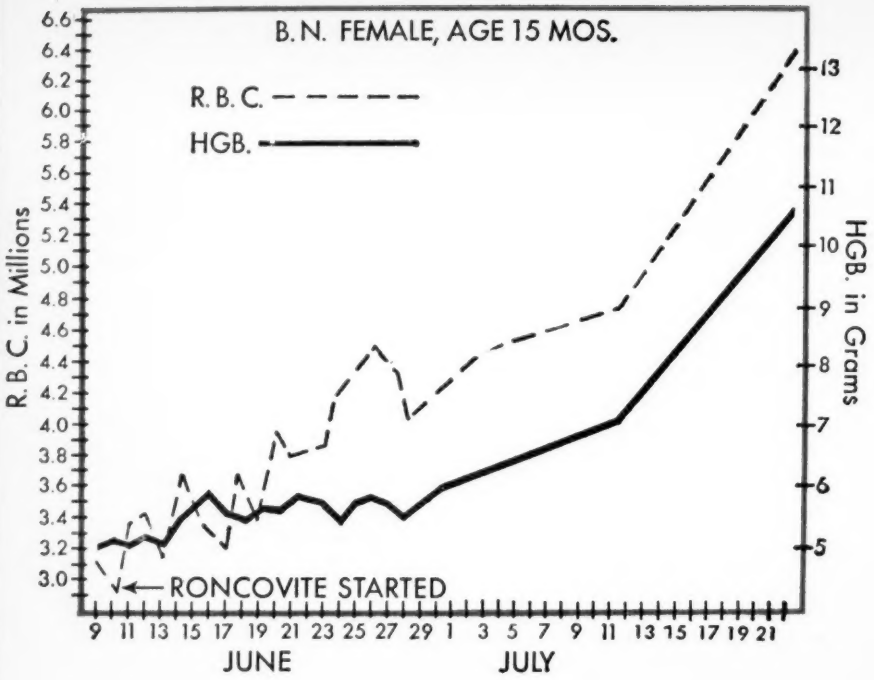
Both preparations provide, in addition, the necessary iron to maintain adequate iron reserve.

Daily oral doses of 60 mg. of cobalt chloride in adults, or 40 mg. in children and infants, have been shown to be effective hematopoietic stimulants, and are well tolerated. These doses may be increased if desired. Gastrointestinal side-effects, as evidenced by anorexia or nausea, are rare at the recommended dosage levels. The appearance of such side effects at higher dosage levels are an indication for reduction of the dose.

Lloyd Brothers, Inc.

How To Prescribe Roncovite (next page)

RONCOVITE: CONTINUED



Preparations Available

RONCOVITE TABLETS

Each Enteric Coated, Red tablet contains:

Cobalt chloride.....15 mg.
(Cobalt as Co.....3.7 mg.)

Ferrous sulfate, exsiccated.....0.2 Gm.
(Iron as Fe.....60 mg.)

Average Adult Dosage: 1 tablet after each meal and at bedtime.

Supplied: bottles of 100 tablets.

RONCOVITE DROPS

Each 0.6 cc. contains:

Cobalt chloride.....40 mg.
(Cobalt.....9.9 mg.)

Ferrous sulfate.....75 mg.
(Iron.....15.1 mg.)

Average Dose: 0.6 cc. (10 minims) diluted with water, milk, fruit or vegetable juice once daily to infants and children.

Supplied: bottles of 15cc. with calibrated dropper.

Complete bibliography supplied on request.

LLOYD BROTHERS, INC. Cincinnati 3, Ohio
IN THE INTEREST OF MEDICINE
SINCE 1870

PROBLEM: The Kentucky workmen's compensation law, like that in other states, requires an employee to notify his employer of an accident resulting in injury, "as soon as practicable." Within two or three weeks a doctor correctly diagnosed an injury as herniated disk. Three months later another doctor confirmed the diagnosis, but still later contradicted it about the time the employee quit work and notified the employer of the accident. Was a compensation award properly denied?

COURT'S ANSWER: Yes.

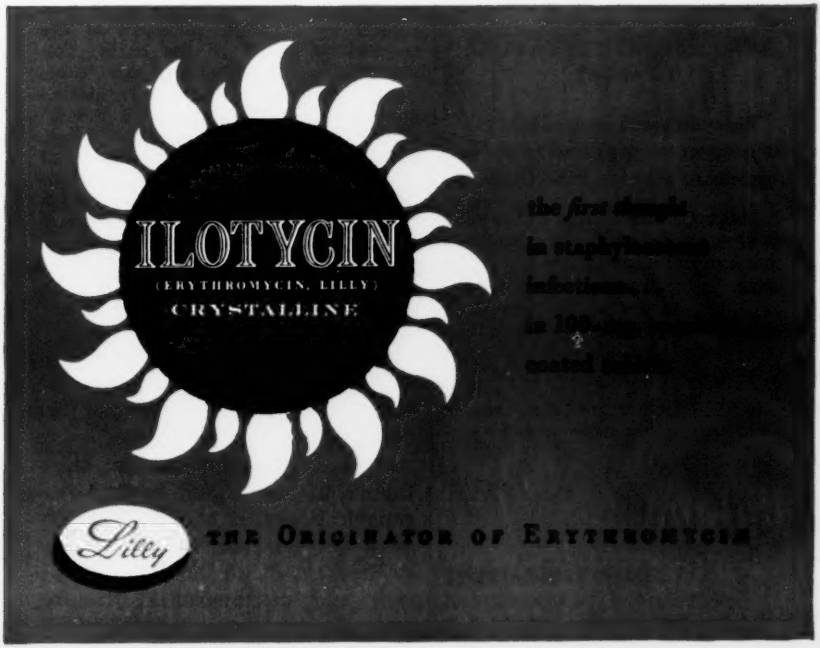
The Kentucky Court of Appeals noted that the obvious purpose of the statute is to enable an employer to make a timely investigation as to the nature and extent of an injury and to provide treatment to lessen the disability.

The court distinguished cases in which it had been decided that employees' delay in giving notice was excused by incorrect diagnoses made by doctors (252 S. W. 2d 55).

PROBLEM: In a bastardy proceeding, is the result of a blood grouping test disproving paternity to be treated as expert evidence, not necessarily barring a finding of paternity, or is it conclusive evidence of nonpaternity?

COURT'S ANSWER: It is conclusive evidence of nonpaternity.

The Essex County, N. J., Court, Law Division, said that to declare that such tests are not conclusive would be as unrealistic as to declare that the world is flat (90 Atl. 2d 545).





Immune Serum
(*Human*)

Goes to work immediately to prevent mumps and to aid in preventing mumps complications

Administered within first 7 days exposure, serum confers passive immunity for approximately 10 to 14 days. In treatment there is some evidence that the serum prevents serious complications if administered early and in adequate amount. (J.A.M.A. *149*:1360, Aug. 2, 1952.)

Available 20 cc. irradiated, dried serum with suitable diluent for restoration.

Hyland

HYLAND LABORATORIES
4534 Sunset Blvd., Los Angeles 27, Calif.
248 S. Broadway, Yonkers 5, N. Y.

PROBLEM: A child's mother had suggested that a surgeon about to perform tonsillectomy have the family physician administer the anesthesia, but the surgeon induced her to consent to administration by a hospital nurse. Could the jury, in a suit for death of the child, who never regained consciousness, find that the surgeon retained control over the nurse, rendering him responsible for the manner in which the anesthetic was administered?

COURT'S ANSWER: Yes.

The North Carolina Supreme Court said that, in such a case, the surgeon is bound to use the same care and supervision usually exercised by average physicians and surgeons of good standing in the same community in similar situations (72 S. E. 2d 589).

PROBLEM: In a homicide trial, the decisive question was whether accused strangled his wife or whether, because she was very drunk, asphyxiation was caused by alcoholic paralysis of the respiratory center of the brain. The prosecution's principal medical witness based his opinion that strangulation caused the death upon small hemorrhages scattered through the lungs, extensive rupturing of the walls of the air sacs, and contusions upon the throat. The defendant's witness's adverse opinion rested upon lack of damage to internal tissue of the throat and disagreement as to the effect of the lung injuries. Was a conviction of first-degree manslaughter sustainable?

COURT'S ANSWER: Yes.

The New Hampshire Supreme Court said that disagreement between the medical witnesses as to the cause of death did not show failure to prove guilt beyond reasonable doubt. It was for the jury to weigh the conflicting opinions in the light of all the evidence, direct and circumstantial, bearing upon the question (92 Atl. 2d 159).

In the Treatment of

NEURITIS

(Sciatic—Intercostal—Facial)

"...patients responded with complete relief of pain"*

WITH PROTAMIDE



Richard T. Smith, M.D., in a currently published paper, "Treatment of Neuritis with Protamide" reports: 84 patients of 104 had complete relief of pain in sciatic, intercostal and facial neuritis with one daily injection of Protamide for five or ten days. "... 49 were discharged as cured after five days of therapy." No intolerance to Protamide, systemic or local was found in the 125 patients (104 plus 21 controls). Two qualifications for practical application of this study are:

1. *The elimination of cases due to mechanical pressure.*
2. *Early treatment after onset.*

Your prescription blank marked NEURITIS REPRINT will bring literature.

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BIOLOGICALS • PHARMACEUTICALS
WINDSOR DETROIT 15, MICH. LOS ANGELES



Tryptar Debridement in Crush Injury of Buttock

Tryptar is also effective in the everyday management of varicose ulcers, in burns, soft tissue abscesses, osteomyelitis, fistulae and sinus tracts.

to effect Physiologic Debridement

WITHIN HOURS

Tryptar dissolves necrotic tissue, surface coagula, clotted blood, purulent secretions and fibrinous strands by physiologic enzymatic action. So rapid is debridement on external lesions that excellent clearing may be obtained within hours. Tryptar acts with complete safety because it cannot digest viable cells or connective tissue. Neither sensitivity to Tryptar nor antigenicity have been reported.

Also available as Tryptar Aerosol for introduction into the respiratory tract. Clogging purulent bronchial secretions are rapidly liquefied and can be easily expectorated.

For detailed information write Medical Service Dept., The Armour Laboratories, 520 N. Michigan Avenue, Chicago 11, Illinois.

Tryptar

The Armour Laboratories Brand of Purified Crystalline Trypsin

THE ARMOUR LABORATORIES

A DIVISION OF ARMOUR AND COMPANY • CHICAGO 11, ILLINOIS

-world-wide dependability-

PHYSIOLOGIC THERAPEUTICS THROUGH BIORESEARCH

NEWS ABOUT A BAUER & BLACK PRODUCT

Now... a Bracer with Detachable Pouch

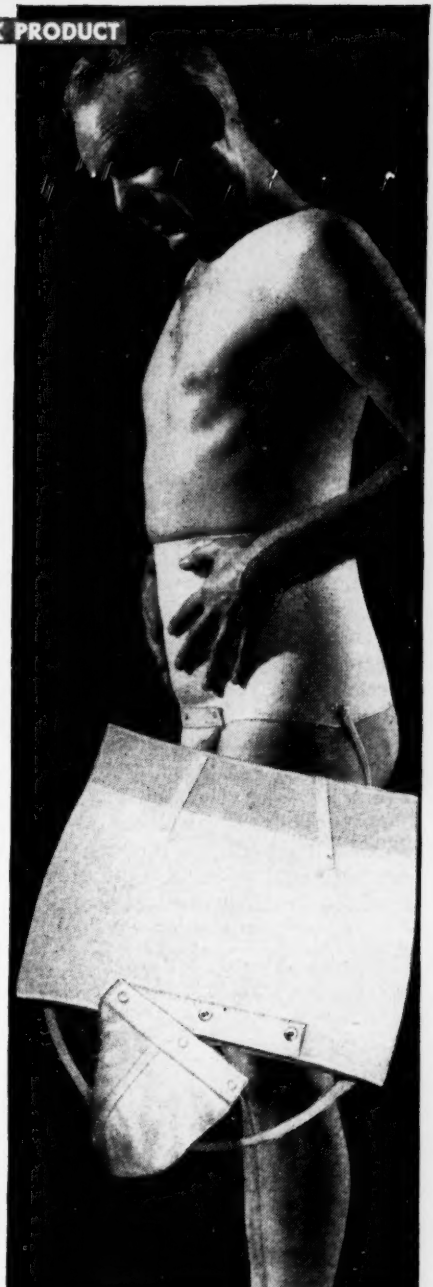
... an added convenience for the patient who needs mild post-operative support

Doctors who have prescribed Bracer for mild post-operative support have suggested the advantages of a detachable pouch.

The new Bracer pouch snaps on and off, can be changed daily for laundering. Available in 3 sizes, can be fitted separately for snugger support.

Patients will welcome the greater comfort of this new Bracer. Woven with porous, cool, two-way-stretch elastic wide waistband, convenient fly front pouch.

When the case calls for mild abdominal, or scrotal support, Bracer may very well be used instead of a special support appliance ... and at far smaller cost.



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SUPPORTER BELT

BAUER & BLACK

309 W. Jackson Blvd.
Chicago 6, Ill.

Washington LETTER

Little Chance to Trim Health Program Budgets

The new administration's economy experts are finding only a few places where they can apply a pruning knife to the health program budgets dropped in their lap by the outgoing Democrats. In fact, there is some chance that eventually Congress will have to appropriate for this work more money, not less, than Mr. Truman's budget proposed.

Executives serving under Federal Security Administrator Oveta Culp Hobby are ferreting out some situations where money can be shaved off without noticeably curtailing services. But these instances are rare.

The Republicans got from Mr. Truman a budget listing not everything that might be done but largely confined to things that just about had to be done. Mr. Truman this time did not allow for any expenditures that would require new legislation, as he has in the past. His explanation was that he couldn't properly be concerned with new legislation.

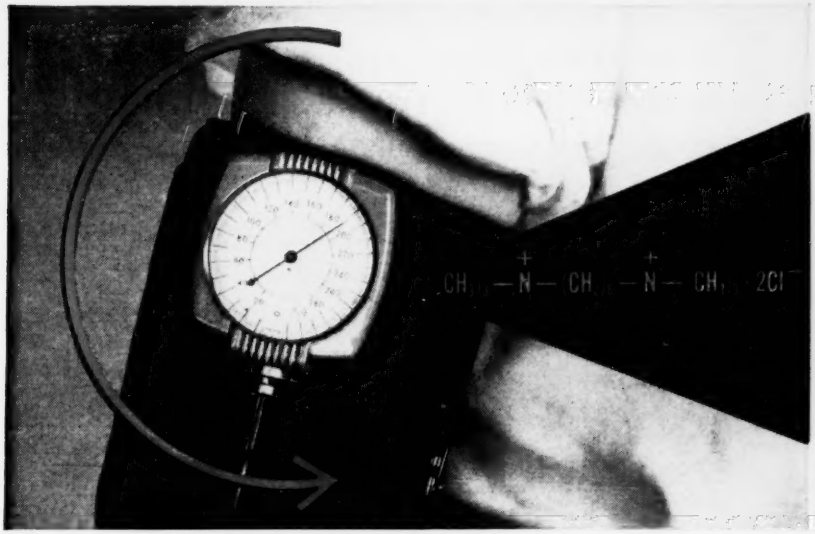
For this reason, Mr. Truman was able to leave out of his calculations for fiscal 1954 such items as federal aid to local public health departments, federal assistance to medical, dental, and nursing schools, and federal contributions for national compulsory health insurance. These things—never enacted into law—repeatedly have appeared in Mr. Truman's budget, each adding to the total and each constituting a little windmill that could be knocked to the ground. Each eventually showed up as an "economy" effected by Congress.



The Republican Congress won't have these vulnerable targets to shoot at. It will have to aim at much smaller items and run the risk of hitting something that is highly sensitive politically.

The Public Health Service program to help in control of venereal disease is listed for $8.3 million dollars for the next fiscal year,

(Continued on page 52)



to lower a hypertensive's blood pressure

It is desirable to

1. reduce blood pressure to near-normal or normal levels

2. alleviate hypertensive manifestations

3. improve patient's condition even if blood pressure is not markedly altered.

These objectives are now attainable with Methium—an "orally effective ganglionic blocking agent."[1] The clinically significant drop in blood pressure usually results in disappearance of subjective symptoms such as headache, dizziness, fatigue, palpitation.

Methium is indicated specifically in cases of severe hypertension unresponsive to the conventional therapy of bed rest and sedatives. Once lower blood pressure levels are reached and maintained, the slowly increased Methium dosage can usually be stabilized and benefits sustained for prolonged periods.

Prior to treatment each hypertensive should be evaluated individually. Therapeutic response to Methium varies. It is a potent drug and should be used carefully. In the presence of complications such as impaired renal function, coronary artery disease and existing or threatened cerebral vascular accident, caution is particularly indicated. Complete instructions for prescribing Methium are available on request and should be consulted before using the drug.

Methium is supplied in both 125 mg. and 250 mg. scored tablets in bottles of 100 and 500.

1. Grimson, K. S., et al.:
J.A.M.A. *149*:215 (May 17) 1952.

Methium®
CHLORIDE
(BRAND OF HEXAMETHONIUM CHLORIDE)

WARNER-CHILCOTT
Laboratories NEW YORK

Your New Electrocardiograph-- WILL IT HAVE THESE FEATURES?

CONTINUOUS TIME MARKER
independent of the chart; assures accuracy of the time factor.

AUTOMATIC LEAD MARKER
obviates guesswork; you *know* which lead is recorded.

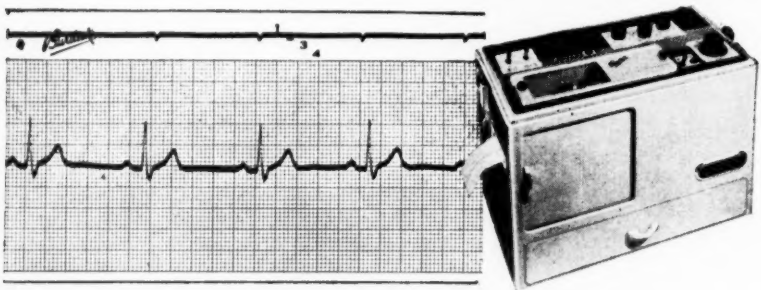
PRECISION RECORDING
sensitive to rapid changes in potential; no rounding of sharp peaks.

SIMPLE OPERATION
selection of lead at the turn of a switch; rapid calibration; controls all on one panel; portability; a clear, permanent record.

All these features are available in the

Burdick

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DIRECT-RECORDING
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THE BURDICK CORPORATION Milton, Wisconsin



CITRUS can help to

Speed Recovery in 10 Million

SURGICAL CASES this year

Since vitamin C is so intimately involved with the formation and maintenance of intercellular substances, adequate levels are essential to facilitate and expedite tissue repair. Vitamin C is also indicated for routine pre- and post-operative administration, because of its role in aiding resistance to infection.

One 8-oz. glass of orange juice t.i.d. provides approximately 300 mg. vitamin C. Other reasons for recommending citrus: it has a high potassium content; it helps to counteract the possible toxic effects of sulfa drugs; and it exerts a welcome energizing influence because of the quickly assimilable fruit sugars.

FLORIDA CITRUS COMMISSION • LAKELAND, FLORIDA

FLORIDA *Citrus*

ORANGES • GRAPEFRUIT • TANGERINES



starting July 1. This is about $1.5 million less than this work currently is costing. The decrease was suggested because of "the declining incidence and the discontinuance of in-patient treatment made possible by improved techniques permitting treatment of venereal diseases on an out-patient basis."

Tuberculosis control work is scheduled for about half a million dollars less, from $8.2 to $7.6, and there is a slight tapering off in funds for the control of communicable diseases.

The budget proposes $75 million for the Hill-Burton hospital construction program, about what has been allowed the last two years but still only half the amount that could be voted under the law. Here, it should be noted, there is no longer a shortage of critical construction materials and the country's hospital needs are believed to be only half met. In this situation, the Republicans might be on the spot; their platform calls for support for hospital construction.

A whopping reduction of more than $10 million is indicated for the National Institutes of Health, one of the 8 national institutes. However, this represents more a reshuffling of funds and responsibilities than an economy.

An extra $4 million is earmarked for the National Cancer Institute, "providing an increase for grants to

(Continued on page 56)



NEW

When TENSION and ANXIETY Weigh Like the World on Their Shoulders...

Relaxamine with Dextro-Amphetamine — adams

EACH TABLET CONTAINS:

Mephenesin — 300 mg. Acts to prevent tension impulses from passing to the skeletal muscles. There is a feeling of complete muscular relaxation and release from nervous tension.

Homatropine Methyl Bromide — 2 mg. Exhibits a selective antispasmodic effect on the gastro intestinal musculature.

Phenobarbital — 1/6 gr. Has a calming effect on the cerebral cortex to help relieve tension and anxiety.

Dextro Amphetamine Sulfate — 2 mg. In small doses may cause an elevation of the mood without excitation.

ADMINISTRATION: ½ to 2 tablets t. i. d. after meals. Also at bedtime if necessary. Supplied in bottles of 50 and 500 bisected tablets.

Is a synergistic combination of four ingredients to provide mental, muscular and gastrointestinal relaxation without drowsiness.

1. In the management of ANXIETY TENSION STATES
2. To relax muscle spasm, interrupt reflex pain and allow greater joint mobility in NEUROMUSCULAR and RHEUMATIC CONDITIONS

WRITE FOR COMPLIMENTARY SAMPLES AND LITERATURE

THE ADAMS COMPANY
100 So. Broad Street Philadelphia 10, Pa.

a new antibiotic

discovered in the Research Laboratories of Chas. Pfizer & Co., Inc. ... effective against particularly against penicillin-resistant gram-positive pathogens ...

particularly effective against

Magna

Experimental and clinical studies
indicate Magnamycin is
exceptionally well tolerated

Now available
Magnamycin Sugar Coated Tablets (100 mg.
Bottles of 25 and 100

ANTIBIOTIC DIVISION Pfizer

those gram-positive organisms often resistant to penicillin



mycin

...active *in vitro* against other micro-organisms including:

GONOCOCCI, PNEUMOCOCCI, MENINGOCOCCI, HEMOPHILUS INFLUENZAE

PLEUROPNEUMONIA-LIKE ORGANISMS

CORYNEBACTERIA, ERYSIPELOTHRIX, LISTERIA

CERTAIN RICKETTSIAL, VIRAL AND PROTOZOAN ORGANISMS

CHAS. PFIZER & CO., INC., Brooklyn 6, New York

medical schools and other institutions for construction and research facilities . . . and to operate, on a full-year basis, a broader clinical research program through utilization of the Clinical Research Center facilities." This refers to the center being completed at Bethesda at a cost of about $50 million.

For the same reasons, appropriations for the National Mental Health Institute would be boosted about $5 million, and for the National Heart Institute, $6.5 million.

The three increases, virtually beyond control of the budget, were required to put into operation the 500-bed research center, which is to receive patients next month.

The budget would give Federal Civil Defense Administration $100 million for purchase of medical and other emergency supplies; this is explained by the fact that producers of antibiotics and other supplies are expanding plants for far greater output, all in anticipation of heavy government purchases. If states want to put up matching money for local medical stockpiles, the budget would allow them to share in a $20 million fund.

Despite a heavy schedule of construction costs, Veterans Administration gets a relatively modest increase of about $80 million, from $843 million to $921 million. Of the latter figure, approximately $713 million is for medical items.

Draft Bill Drawn Up

Defense Department's bill for extending and amending the Doctor Draft law, drawn up after six months of study and discussion, has only one surprise—the maximum age for induction is kept at 51. Although the military services had hoped to drop the limit to 41 or 45, they gave in to protests that it would be unfair to call back younger men for a second tour of duty and allow thousands of older men who had had no service to continue in their civilian practice.

Other provisions of the legislation, all anticipated, would:

1] Call up all Priority I and II men as soon as their deferments expire.

2] Divide the remaining pool of doctors into two groups: those who have and those who have not served. The nonveterans would be called first, with the youngest inducted first. When the veterans were reached, those with longest service records would be called last.

3] Arbitrary limitations on the number of higher commissions would be waived in the case of medical officers, who would receive commissions "commensurate with their education and experience."

4] The law, scheduled to expire next July 1, would be continued for another two years.



". . . Dr. Simpson?"



you may choose specific therapy
from this complete iron line

Feosol* Hematonic—the *new*, five-factor blood-building preparation

'Feosol' Tablets—the standard iron therapy

'Feosol' Elixir—the outstanding liquid iron preparation

Feosol Plus*—the ideal iron-liver-vitamin formula

Feojectin*—the safe, rapid-action *intravenous* iron

The most *positive* treatments
for the most common deficiencies

Smith, Kline & French Laboratories, Philadelphia

*T.M. Reg. U.S. Pat. Off.



the psychological value of a good tonic

The benefit of a good tonic is not entirely limited to its tone-restoring and appetite-stimulating effects.

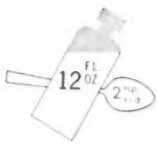
Most physicians know how much the little ceremony of taking each pre-meal dose of 'Eskay's Neuro Phosphates' or 'Eskay's Theranates' can brighten "the endless, daily, dull routine" of the elderly patient's life.

And—of great importance—"his tonic" is an ever-present symbol of the reassuring and comforting fact that he is "in the care of his physician".

Smith, Kline & French Laboratories, Philadelphia

Eskay's Neuro Phosphates*

a palatable, restorative tonic



Eskay's Theranates*

the formula of famous 'Neuro Phosphates' plus Vitamin B_1

Prescribed so widely because they work so well

*T.M. Reg. U.S. Pat. Off.



"*Digitalization does not refer to a rectal examination.*"

Life's Weary Moments

Think of a gag that fits the illustration. For every issue a new gag is published and the author sent $5. The March 1 winner is

E. J. Smith, M.D.
San Francisco

Mail your caption to
The Cartoon Editor
Caption Contest
No. 1
MODERN MEDICINE
84 South 10th St.
Minneapolis 3, Minn.



Skin Protectant to Favor Healing in

- Housewife's Eczema
- Occupational Dermatoses
- Diaper Rash
- Decubitus Ulcers
- Pruritus Ani from Enzymes
- Pruritus Vulvae from Discharge
- Colostomy Drainage
- Other Draining Fistulas
- Persistent Diarrhea, Etc.

Available in 1 oz. Tubes and 1 lb. Jars

Dramatic NEW SKIN PROTECTANT

Described in Journal of Investigative Dermatology, 17:125 (September, 1951)

For the first time, utilizing properties of silicone oils! Silicote provides prolonged protection against skin irritation and maceration. In clinical tests, effective in 525 dermatologic cases—many of which were failures under currently acceptable therapy. Silicote is chemically inert, adhesive, moisture repellent.

Contains 30% Silicone Oils in a Specially Refined Petrolatum Base

Send for Samples and Literature

ARNAR-STONE LABORATORIES, INC.
Formerly Named Americaine, Inc.
1316 Sherman Ave. Evanston, Ill.

SILICOTE
SILICONE OINTMENT



In both private and hospital practice, oral REMANDEN *may be relied upon to save countless hours by supplementing intramuscular therapy in the more commonly occurring systemic infections.*

Six advantages of Remanden

1. REMANDEN gives higher and more prolonged penicillemia* than an equal dose of other currently available oral penicillin preparations.
2. REMANDEN provides comparable plasma levels peak-wise and duration-wise—to procaine penicillin intramuscularly.
3. REMANDEN supplements and augments initial intramuscular penicillin therapy.
4. REMANDEN permits wider latitude in spacing of oral doses, facilitating administration dissociated from meals to obtain optimal absorption.
5. REMANDEN is adequate for the majority of infections due to penicillin-susceptible organisms.
6. REMANDEN allows freedom from injection without sacrificing therapeutic efficacy.

**Synonym for plasma concentrations of penicillin.*

New "Oral Repository Penicillin"... Comparable to Intramuscular Therapy[1]

REMANDEN combines potassium penicillin G with probenecid. Probenecid has been shown to increase penicillin plasma levels from 2 to 10 times. REMANDEN given in the same dosage will increase the reliability of current oral penicillin dosage schedules. In a recent clinical report[1] the recommended daily dose of REMANDEN has been shown to give the same peak levels and the same duration of therapy as that provided by the usual dose of procaine penicillin (300,000 units) given intramuscularly.

SAVES TIME FOR THE PHYSICIAN

Because REMANDEN maintains plasma levels of penicillin comparable to those of intramuscular penicillin, this new preparation is an important time-saver for the physician. Perhaps its greatest value is its usefulness in supplementing and augmenting parenteral penicillin therapy —thereby saving the physician many house calls.

DOSAGE:

Each REMANDEN Tablet contains 100,000 units of penicillin and 0.25 Gm. of BENEMID. Adults, 4 REMANDEN Tablets initially, then 2 tablets every 6 or 8 hours. Children, on the basis of 0.025 Gm. of BENEMID per kilogram, 2 to 4 tablets per day. REMANDEN is supplied in vials of 12 (slotted) tablets.

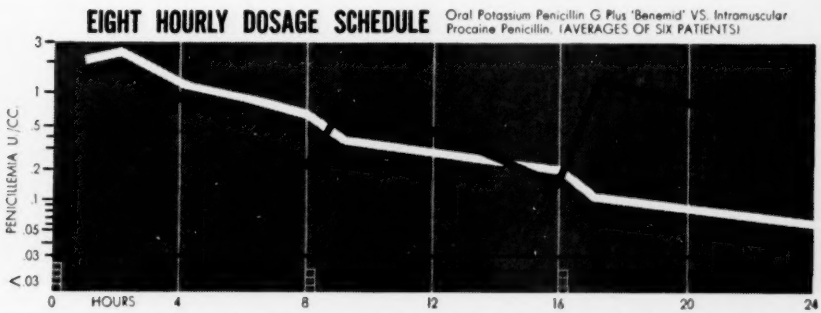
Sharp & Dohme, Philadelphia 1, Pa.

1. Boger, W.P., Crosley, A.P., Jr., Carfagno, S. and Bayne, G.M.: Antibiotics and Chemotherapy, 2:555, November, 1952.

Remanden®

SHARP & DOHME

PENICILLIN WITH PROBENECID (*Benemid*®)



Oral administration of REMANDEN *at eight-hour intervals maintains over-all plasma penicillin levels during a 24-hour period (black line) equal to those obtained with 300,000 units of intramuscular procaine penicillin (white line).*



WHY TAKE CANDY FROM A BABY?

The overweight patient likes to indulge in sweets. Why not take advantage of this penchant when you prescribe an appetite depressant? ADJUDETS are candy-like troches. They contain d-amphetamine phosphate and essential vitamins, effective aids in reducing regimens. Your patient will like this delightfully flavored "sweet." Only 15 calories per troche.

ADJUDETS®
D-AMPHETAMINE-MULTIVITAMIN TROCHES
Supplied: Jars of 36

Wyeth®
Philadelphia 2, Pa.

MODERN MEDICINE
THE JOURNAL OF DIAGNOSIS AND TREATMENT

Grievance Committees
make real contributions

A Modern Medicine Editorial

Many a medical society has taken a wise step and set up a grievance committee to serve as a buffer between dissatisfied patients and the doctor. Often the committee can make peace between the two parties, and this is good both for them and for organized medicine.

In many cases a damage suit can be avoided. Sometimes the grievance committee can convince a patient that the doctor was not ignorant or negligent; at other times the committee admits that the doctor was at fault and advises the insurance company not to take the matter into court, but to pay up.

Recently Dr. Walter B. Stokes, Chairman of the Grievance Committee of the Medical Society of the District of Columbia, sent *Modern Medicine* a brief review of the work his committee is doing. He said that during the preceding year an average of 12 complaints a month had been received. All were thoroughly investigated.

The following are the types of complaint that were most commonly met:

1] An excessive charge for services. Sometimes in such cases the doctor can be convinced that although he may be within his legal rights, he would be unwise to press for the payment of so large a bill. Perhaps if the matter were to come into court the doctor and the whole medical profession would get a black eye and a bad press.

2] Complaints about large charges which were not discussed with the patient when the treatment was started.

3] Complaints by some subscriber to a medical service that the doctor added unjustifiable charges, not covered by the insurance.

4] Complaints of alleged incompetent or negligent treatment.

5] Failure of the doctor to respond to an emergency or night call.

6] Discourteous treatment at the hands of some member of the doctor's office staff or family.

7] Discourteous or threatening behavior incident to the collection of a bill.

8] Failure either to call a consultant, to hold down the number of consultations, or to limit within reason the amount of laboratory and x-ray work.

9] An allegation that the doctor either experimented on the patient or else failed to use new methods of therapy.

10] Complaints that a treatment was guaranteed to cure but later didn't help. Lawyers sometimes now sue, not for malpractice, but for failure to fulfill a contract.

11] Alleged demands for prepayment for services in an emergency or night call.

12] Alleged failure of the doctor to be helpful in getting the patient another physician when he is unable or unwilling to take the case himself.

13] Allegation that the doctor made a frightening diagnosis or a bad prognosis without foundation. Certainly all physicians should take this to heart. This is one of the cardinal sins. Usually a physician is foolish to make a bad prognosis especially when no one has asked him to say anything. Only rarely need one make a bad prognosis, as when a businessman with a stroke wants to know if he can ever go back to work again or if he should close out his business.

14] Complaint by one physician against another, usually because of alleged lack of professional courtesy. So often the truth is that the patient was dissatisfied and displeased with his doctor and wanted to get rid of him but did not know how to go about it. As a result he let his doctor call in the man to whom he wanted to go. Later the patient was angry when he found that this had blocked him from getting the man of his choice.

As Dr. Stokes says, it is a shock for a doctor to be called before a grievance committee, but usually it is best for him to go because then the case is likely to be settled amicably. It is not good for a doctor to have people going around the town talking bitterly about him.

Finally, Stokes says something that physicians should all remember and take to heart:

"Most of the complaints arise from lack of a sufficiently warm and personal kind of relationship between doctor and patient. People who like us personally don't sue us or complain about us to a grievance committee."

WALTER C. ALVAREZ

Special Article

The Early Detection of Cancer in the Physician's Office

DAVID STATE, M.D.
Phoenix

Prepared for Modern Medicine

CANCER is second only to cardiovascular disease as a leading cause of death in this country. As the average life span increases, more and more people will eventually become afflicted with this disease. Because of intensive educational programs from many sources, the public has become quite aware of this dreaded scourge. The layman knows that cancer is curable when diagnosed early and turns to the physician for help.

Malignant disease in the main is slow growing and remains silent for long periods of time—an average of one to one and one-half years. Thus any worthwhile inroad on the great cancer mortality must come from early diagnosis. What is desperately needed is a simple reliable serum or skin test to make the diagnosis of cancer as easily achieved as that of syphilis by the Wassermann test. Since no such test is available at present, what can be done to make possible the detection of cancer in the early silent phase?

Some inroads into the problem have been made by cancer detection centers. The limited number of these centers, however, prevents the examination of a large enough segment of the population to make a sizable dent in the problem. One possible way to handle the many people who should be examined would be to have every doctor's office a cancer detection center. A frequently voiced objection to this concept is that the general practitioner has difficulty finding time to examine apparently well persons because he is so busy taking care of those who are ill.

There is no ready solution. However, it is feasible for the general practitioner to utilize the examining technics evolved at such a cancer detection center as the one at the University of Minnesota. By proper planning, the intelligent utilization of a laboratory technician, and the use of filters, the practitioner can do a thorough job on each patient in twenty minutes.

Approximately 1% of the pa-

TABLE 1. PATIENTS EXAMINED

		Males	*Females*
Total patients	9,743	4,804	4,939
Patients having 1 examination	4,834	2,419	2,415
Patients having 2 or more examinations at approximately yearly intervals	4,909	2,385	2,524

tients will be found to have a malignant disease, of which about 70% are early. In addition, 12% of the examined individuals will have premalignant lesions. An aggressive attitude in the treatment of this latter group will result in a significant reduction in cancer mortality.

A plan for examining individuals in the physician's office, with emphasis placed upon a complete and thorough examination, is as follows:

ORGANIZATION

1] A certain number of hours of one or more days should be set aside for examining well individuals. These people come only by appointment. Separate days for males and females would be expedient.

2] Only individuals over the age of 45 are given complete examinations. Females between 35 and 45 have only pelvic examinations with a smear of the vagina taken and stained according to the technic of Papanicolaou.

3] A set of instructions is sent to each patient a week in advance of his appointment. He is instructed to:

a] Eat no meat or fish for two days before examination.
b] Take a tap water enema the night before and the morning of examination.
c] Take nothing by mouth the morning of examination.
d] Bring a specimen of stool and urine.
e] Females are told to refrain from douching.

Table 2

MALIGNANT DISEASES

Site	*Found at 1st exam.*	*2nd exam.*	*Total*
Breast	3	4	7
Cecum	2	0	2
Cervix	5	1	6
Ascending colon	0	1	1
Duodenum (carcinoid)	1	0	1
Kidney	1	0	1
Lung	1	0	1
Ovaries	2	1	3
Prostate	3	2	5
Rectum	8	0	8
Sigmoid	5	3	8
Stomach	6	5	11
Skin	16	10	26
Chronic lymphatic leukemia	3	0	3
Lymphosarcoma	2	2	4
Total	58	29	87

EXAMINATION

The examinee reports to the doctor's office in the morning. Here the laboratory technician makes:

1] Complete blood count
2] Urinalysis
3] Gastric analysis, using 0.5 mg. histamine diphosphate as a gastric acid stimulant
4] Guaiac test for occult blood in the stool
5] Roentgenogram of the chest.

The patient may then eat and is told to return at a specified time

later in the day. The above laboratory data can be completed before the doctor sees the patient.

The physical examination by the doctor may be expedited by the use of special examining forms available from the American Cancer Society.

In addition to a thorough physical examination, each patient should have a proctoscopic examination. Females should have pelvic examinations at which vaginal smears are taken. In practically all sections of this country arrangements can be made with some nearby medical center to have these smears stained by the Papanicolaou technic and interpreted by a competent pathologist.

Filters

To limit the use of further diagnostic procedures, particularly roentgenograms, to individuals who are the most likely to harbor early silent malignant growth:

1] *Gastric roentgenograms* are used only for the individuals with

a] Achlorhydria or hypochlorhydria (less than 20% free acid)

b] Unexplained hemoglobin below 11 gm.

c] Occult blood in the stool

2] *Barium enema* only for those with

a] Abnormal findings on proctoscopic examination (polyps, etc.)

b] Occult blood in the stool

c] Unexplained hemoglobin below 11 gm.

3] *Other roentgenograms* are used only as indicated by positive physical indications.

At the completion of the examination, the patient should be told of the results and, if a premalignant or malignant lesion is found, should be so informed in order that he may obtain immediate therapy.

The findings from March 1, 1948 to August 30, 1952 at the University of Minnesota Cancer Detection Center, where the above method of examination was used, are given in Tables 1 to 4.

Table 3

PRECANCEROUS LESIONS

Site	*Found at 1st exam.*	*2nd exam.*	*Total*
Adenomas and polyps of rectum and colon	580	388	968
Gastric polyps	6	4	10
Kraurosis vulvae	16	9	25
Leukoplakia	126	59	185
Pigmented nevi in areas of irritation	236	54	290
Polyps of vocal cords	1	0	1
Senile keratoses of skin	159	101	260
Thyroid adenomas	78	45	123
Total	1,202	660	1,862

From these it can be seen that, using the technics and filters described, approximately 1% of subjects are found to have cancer.

Of great significance is the fact that a high proportion of these cancers are of visceral organs, particularly of the gastrointestinal tract. In addition, 70% of the visceral carcinomas are early, being confined to the organ from which they arose, and have not metastasized to regional lymph nodes. This observation is to be contrasted with reports from a number of large medical centers where only 15% of

Table 4
NONCANCEROUS CONDITIONS REQUIRING ATTENTION

Abnormality	*Found at 1st exam.*	*2nd exam.*	*Total*
Cardiovascular system, including hypertension	1,180	480	1,660
Gastrointestinal tract, including hemorrhoids and anal pathology	1,027	370	1,397
Male and female genitourinary tract	925	455	1,380
Skin	298	152	450
Ear, nose, and throat	784	427	1,211
Miscellaneous			
Anemia	9	0	9
Arthritis	119	48	167
Asthma	22	6	28
Diabetes mellitus	15	6	21
Excessive obesity	245	115	360
Thyroid, other than nodular goiter	11	4	15
Total	4,635	2,063	6,698

visceral malignancies are early cases when first seen.

This difference in percentages of early diagnosis is extremely important from the standpoint of results of therapy. With gastric carcinoma, for example, the five-year survival rate when the lesion is confined to the stomach is approximately 60%, but is in the neighborhood of only 10% when lymph node metastases have occurred.

Of equal or perhaps greater importance is that approximately 16% of the patients examined are found to have precancerous lesions. Chief among these are polyps of the rectum and colon. The early diagnosis and therapy of these lesions should result in a material reduction in the incidence of cancer of the rectum and colon.

These findings also reveal the value of routine digital and proctoscopic examination in any studies designed to uncover early precancerous and cancerous lesions. For the discovery of cancer, the proctoscope is much more important than a stethoscope. Any physician can learn to use a proctoscope, and the examination performed with the patient in the knee-chest position is quite satisfactory.

To carry this program to a logical conclusion, physicians must be impressed with the importance of adequate biopsy and treatment of small lesions. The tendency is still too frequent to dismiss as insignificant small areas of hyperkeratosis of the skin, solitary adenomas of the thyroid, silent coin lesions of the lung, and small adenomas of the rectum. An aggressive attitude toward premalignant lesions, particularly when early and small, can greatly improve the results of therapy for cancer. Perhaps in no other field is the saying, "An ounce of prevention is worth a pound of cure," more significant or true.

The statistics concerning the patients who were examined more than once at yearly intervals indicate that, although the yield of positive findings is less than on the initial examination, the number is

still sufficiently large to warrant yearly examination.

The large number of people, approximately 60%, who were found to have noncancerous conditions requiring medical attention points strongly to the value of complete health examinations of apparently well individuals who are over the age of 45.

Until a simple diagnostic test for cancer and precancerous lesions is found, each doctor's office must become a cancer detection center.

The studies herein reported were supported by funds from the Minnesota Division of the American Cancer Society, the National Cancer Institute of the United States Public Health Services, and the Malignant Diseases Research Fund of the University of Minnesota.

Intramuscular Injections

ROBERT W. AUGUSTINE, M.D., W. E. LANDMESSER, JR., M.D., MERVEL V. PARKER, M.D., AND OTIS L. VADEN, M.D.

THE best site for intramuscular injection is the lateral aspect of the thigh.

The gluteal muscles, frequently used for the purpose, cannot be adequately exposed without turning the supine bed patient. The buttock is often contaminated by feces, and underlying nerves and blood vessels may be damaged. If the medication is deposited intraneurally or the needle is carelessly inserted into improper portions of the thigh, sciatic palsy results.

Injections into the mass of the vastus lateralis of the quadriceps femoris group can easily be accomplished in a prone or supine patient, state Lt. Col. Robert W. Augustine, M.C., Capt. W. E. Landmesser, Jr., M.C., Capt. Mervel V. Parker, M.C., and Capt. Otis L. Vaden, M.C., U.S.A.F., of the U. S. Air Force Hospital, Maxwell Air Force Base, Ala. The area is large enough to permit repeated injections and does not contain major vessels or nerves.

A 1½-in. needle is used for adults, a slightly shorter one for children. The needle is inserted parallel with the floor or directed slightly anteriorly. Multiple insertions can be made along a line extending from just below the greater trochanter to a handbreadth above the lateral femoral condyle. Aspiration should be attempted before injection in order to avoid intravascular deposition of the medication.

Hunter's canal will not be entered unless the injection is made extremely negligently and too far posteriorly. If infection occurs in the lateral thigh, incision and drainage can be done without damage to vital structures.

Site for intramuscular injection. U. S. Armed Forces M. J. 3:1787-1790 1952.

Many circumstances make I^{131} useful in hyperthyroidism, particularly for Graves's disease.

Radioactive Iodine for Hyperthyroidism

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THE use of I^{131} is increasingly popular in the treatment of Graves's disease and hyperthyroidism resulting from nodular goiter.

Effects of the isotope are essentially the same as those of roentgen rays or radium, but a larger radiation dose can be placed inside the thyroid. The uptake is high in hyperthyroidism and low when thyroid function is normal; thus hypothyroidism is unlikely if a healthy gland is treated.

Radioactive iodine lasts long enough to be effective but also disappears rapidly, so that overdosage will not cause excessive damage. In the doses used, no renal or vesical damage, amenorrhea, or infertility is produced. The agent is not suitable for therapy of hyperthyroidism in pregnancy, but the fetus is protected until after the third month because of inability of the fetal thyroid to concentrate radioactivity during the first trimester.

The measurement of I^{131} uptake by the thyroid has considerable diagnostic value, especially in cases of Graves's disease. Test doses are as small as 10 microcuries.

E. Perry McCullagh, M.D., finds that the normal twenty-four-hour uptake lies between 15 and 45%; 45 to 60% is borderline, while levels below 15 and above 60% are abnormal. Uptakes may be altered by other factors influencing the avidity of the thyroid for iodine, such as iodine starvation or increased thyroid iodine or thyrotropic hormone.

Urinary excretion of radioactive iodine accounts for most of the radioactivity not localized in the thyroid. Hence measurement seldom adds to the certainty of diagnosis of Graves's disease, but is of value when the gland is unusually large or misplaced or when dealing with metastases.

Therapy with I^{131} is recommended for recurrent hyperthyroidism after surgery, for cardiac cripples and the aged, and is frequently used for recurrences after antithyroid drugs. The isotope is received from Oak Ridge and is restandardized and diluted in colored water to a strength of 4 mc. per 1 cc.

No method is known by which the completely effective dose can always be determined. Calculation currently is based on the weight of the gland, as established roughly by palpation, and the percentage uptake of I^{131}. To avoid unnecessary hypothyroidism, two-thirds of any average effective dose is given. Control of 75% of patients by 1

Radioactive iodine in the treatment of hyperthyroidism. Ann. Int. Med. 37:739-744, 1952.

dose, 15% by 2 doses, and 10% by 3 or more doses results. Usually the dose lies between 100 and 200 microcuries per gram of thyroid.

If a patient has been pretreated with iodine and uptake is low, an antithyroid drug may be used for a month to maintain control; two or three days after withdrawal of the drug, I^{131} can be used.

The patient should return two months after treatment and, if no improvement has occurred, the original dose is repeated. If improvement is halfway to normal, half the dose is given. If the basal metabolic rate is less than $\pm 20\%$, no more I^{131} is given for two months.

In most cases, Graves's disease is controlled in two to four months; 98% of patients are free of hyperthyroidism six months after treatment. Fewer recurrences are observed than in other forms of therapy but may appear in twenty to fifty weeks. Re-treatment is just as effective as the original course. Hypothyroidism, often transient, occurs in about 10% of cases.

Complete control may be slower than after surgery. However, treatment is cheap, no hospitalization is required, and the patient loses no time or income.

Surgery is usually the best treatment for nodular goiter, since the risk of cancer is great. If surgery seems unacceptable, radioactive iodine can be used.

A clear differentiation must be made between nodular goiter and Graves's disease. The required dose is greater in nodular goiter and the rate of improvement slower. Larger doses may be used because post-treatment myxedema has never been observed in this condition. A large single dose occasionally removes hyperthyroidism in two to three months, usually about six and a half months are necessary.

Near crisis during treatment can be avoided if ordinary iodine is always given, beginning two days after the I^{131}.

Though fears have been expressed that radioactive iodine treatment may lead to cancer, no such occurrence has been seen.

¶ RADIOACTIVE IODINE administered to lactating mothers appears in the thyroid glands of nurslings. Twenty-four hours after the ingestion of diagnostic tracer doses of 100 microcuries of the substance, the infant and maternal glandular uptake was 5 and 34%, respectively, in one case, and 6 and 18% in another. Therefore, Carl E. Nurnberger, Ph.D., and Alys Lipscomb, M.D., of the University of Tennessee and the John Gaston Hospital, Memphis, believe that diagnostic tracer studies of a nursing woman with I^{131} are hazardous because the functional activity of the baby's gland may be seriously depressed or ablated. In addition, the diversion of the I^{131} from the patient's thyroid to the milk makes the reliability of the procedure questionable.

J.A.M.A. 150:1398-1400, 1952.

Fragmentation of the internal elastic membrane by intraarterial tension may initiate coronary arteriosclerosis.

Histogenesis of Coronary Arteriosclerosis

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MANY pathologic processes participate in the development of coronary arteriosclerosis.

Changes start early in life, follow an orderly sequence, and in some ways resemble formation of scar tissue. The initial lesions apparently have no relation to lipid deposits.

Even infants may show the first abnormality—simultaneous degeneration of elastic tissue, fibroblastic activity, and deposit of mucoid ground substance.

Moderately advanced lesions reveal regeneration of the elastic membrane, formation of collagen, and the constant appearance of fat. The late stage includes abundant lipid deposition, calcification, intramural hemorrhage, and thrombosis.

Cardiac vessels of 250 individuals aged 4 months to 90 years at death were examined by Henry D. Moon, M.D., and James F. Rinehart, M.D. Nearly all subjects died suddenly without a previous debilitating illness.

Completely nonsclerotic major coronary arteries are seen only in the very young. The intima consists of an endothelial layer with occasional fibroblasts beneath.

The internal elastic membrane is an unbroken tube with longitudinal corrugations. The medial coat of smooth muscle has a few delicate elastic fibrillae and small amounts of mucoid ground substance. The adventitia is formed by collagenous connective tissue and a few fibrillae.

The *first stage* of sclerosis is often observed in young people killed by injury in the first or second decade of life. By the third decade, lesions invariably appear in proximal segments of the vessels. The intima generally shows slight diffuse thickening, though at times only a small part of the circumference is involved.

Focal degeneration of the internal elastic membrane, proliferation of subendothelial fibroblasts, and increase of mucoid ground substance are closely associated, and degenerative areas are usually seen under fibrous plaques.

Lipid droplets, when evident, are in the intima, media, or both, and are not necessarily related to the plaques.

In the *second stage* collagen is deposited. Ruptured elastic tissue often regenerates from the mucoid substrate. Lipoid can always be detected, appearing as both fine and coarse droplets. Amounts are greatest at bases or centers of fi-

Histogenesis of coronary arteriosclerosis. Circulation 6:481-488, 1952.

brous plaques and least along the endothelial border.

The *third stage* of arteriosclerosis represents degeneration or senescence, with large amounts of lipid, hyalinization of connective tissue fibrillae, and calcification. The last phase, with intramural bleeding and thrombosis, probably results from deterioration of connective tissue ground substance and collagen with stenosis of the involved arteries.

Obviously, deposition of fat is not the initiating factor in the common human type of coronary sclerosis. The fact that lipids, including cholesterol, are consistently seen in advanced lesions may result from [1] increased affinity of abnormal intercellular ground substance for lipids, [2] abnormal lipid metabolism in focal areas, [3] liberation of fat by degenerating cells, or [4] deranged lipid metabolism with deposition only in damaged tissue.

Hyaline degeneration may be caused by abnormal polymerization of mucoid ground substance.

Mitral Stenosis with Heart Failure

DONALD E. LOVE, M.D., AND SAMUEL A. LEVINE, M.D.

ABOUT 13% of patients with mitral stenosis will live nine years or more after obvious development of congestive heart failure or auricular fibrillation.

Survivors fall into three groups. About 50% also have hypertension; 25% have tricuspid stenosis; others have neither hypertension nor tricuspid involvement.

These facts should be remembered when possible benefits of valvuloplasty are being weighed.

In reviewing hospital and clinic records, Donald E. Love, M.D., and Samuel A. Levine, M.D., of Harvard University, Boston, noted 65 instances of patients with mitral stenosis who had lived at least nine years since onset of failure or fibrillation. Among 164 outpatients seen between 1940 and 1942 whose later courses are known, 22 were or are still alive nine years after onset of complications, and 18 are able to attend the cardiac clinic. Although 8 are severely handicapped, 9 are engaged in full or part-time work, and 1 is active after mitral surgery.

About 25% of the long-lived group have symptoms resembling angina that are probably caused by increased pulmonary pressure and not by coronary sclerosis.

Women outnumber men 2 to 1 among individuals with mitral stenosis but nearly 4 to 1 among those who survive.

Mitral stenosis with long-lasting congestive heart failure or auricular fibrillation. New England J. Med. 247:917-920, 1952.

A safe and effective technic has been evolved for the application of radioactive gold therapy.

Radioactive Gold for Cancerous Effusion

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RECURRENT pleural or peritoneal effusion from carcinomatosis may be eliminated by radioactive colloidal gold instilled into the affected cavity. The best results are achieved if the patient has neither large tumor masses in the involved cavity nor severe systemic manifestations, other than those caused by collected fluid.

For greater safety, a closed system of remote injection is employed by Raymond G. Rose, M.D., Melvin P. Osborne, M.D., and William B. Stevens, M.D. Saline solution is forced by syringe along tubing into a lead-shielded bottle enclosing the radioactive material, so that the dose is diluted and conveyed through other tubes to the patient. The technic of administration is simplified, spillage prevented, and exposure of personnel reduced to a minimum.

In most cases, effusion is removed from the body and the suspension of metal particles introduced by a trocar. If abdominal fluid is extremely thick and loculated, however, preliminary surgery is advisable.

Radiogold is obtained from Oak Ridge, Tenn., in sealed rubber-capped bottles. On receipt, a bottle is moved with long forceps to a lead container. A curved 17-gauge needle for saline inflow is introduced through a central hole in the lead cap, leaving the point above the colloid surface. A similar outflow needle is inserted to the bottom of the suspension, and a lead cover with narrow slot is placed over the first lead cap.

The inflow needle is attached to a 3-way stopcock leading to a 50-cc. syringe and a flask of sterile physiologic saline solution. The outflow needle is fastened to disposable plastic tubing, which may be connected with adapters to a paracentesis needle or catheter, or for bilateral therapy to a stopcock and 2 catheters.

In a preparatory operation, a transverse epigastric incision is made using general anesthesia. Fluid and other material is removed from the abdomen, major loculations are freed, and biopsy is done.

Tubes for instillation are inserted through 2 small stab incisions just below outer angles of the large wound, to prevent contamination of the wound by the isotope. A No. 16 or 18 hard-rubber urethral

The intracavitary administration of radioactive colloidal gold. New England J. Med. 247:663-667, 1952.

catheter is passed obliquely through fat and an offset stab incision into each lumbar gutter. The exploration wound is closed with cotton sutures. Catheter ends are tied or clamped off and incorporated in a dressing separate from that of the first incision.

The invalid is then taken to his room for injection of radiogold. A dose of 25 to 100 millicuries and 70 to 200 cc. of saline may be required in the pleural space. The peritoneal cavity receives 50 to 200 millicuries with 200 to 500 cc. of salt water. The diluent not only transports the metal but flushes out the apparatus, removing most of the radioactivity.

Immediately after postoperative injection, steps are taken to prevent adynamic ileus, which may result from manipulation and irradiation of the bowel.

To distribute the gold particles more evenly, body position should be changed every hour throughout the first waking day, and later as required. Radioactivity is measured at intervals with an external portable Geiger-Müller counter.

Other patients must be kept at least 6 ft. away from the person under treatment. The isotope has a half-life of two and seven-tenths days.

During the first three days after instillation, a nurse may remain within 2 ft. for not more than twenty minutes daily, or within 2 to 5 ft. for ninety minutes. Periods are then doubled. A different attendant is on duty each day and, to determine exposure, all personnel involved should wear film badges.

In cases formerly needing weekly or more frequent taps, no further drainage may be necessary. Formation of fluid is probably stopped by suppression of free tumor cells and seedings and by obliteration of minute blood vessels supplying the serosa.

¶ GASTROINTESTINAL DYSFUNCTION may be more specifically managed with the synthetic antispasmodics Bentyl, Banthine, and Prantal than with atropine. In a comparative study using 100-mg. oral doses of the three compounds, Gordon McHardy, M.D., and Donovan C. Browne, M.D., of the Browne-McHardy Clinic and Touro Infirmary, New Orleans, find the first-named drug, diethylaminocarbethoxybicyclohexyl hydrochloride, free from significant side effects and most generally useful when secretory inhibition is not important. Undesirable reactions are often severe enough with methantheline bromide (Banthine) to prevent use of this anticholinergic but are seldom noteworthy with N, N dimethyl 4-piperidyline 1, 1 diphenylmethane methyl sulfate (Prantal). In estimating untoward effects, the substances were also given in amounts of 25 mg. intravenously and 50 mg. intramuscularly and subcutaneously.

South. M. J. 45:1139-1144, 1952.

Pain of dyspeptic origin is sometimes falsely interpreted as indicating cardiac infarction.

Esophageal Arrhythmia

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IF the electrocardiogram is absolutely normal, yet the patient has cardiac-like pain, esophageal arrhythmia may be the cause of the discomfort.

The pain, usually in the center of the chest, is described as gripping, constricting, a tightness, sense of pressure, a dull ache, or resembling indigestion. The sensation often radiates to the jaw, the shoulder, or either arm but is not lancinating. Pain is not felt on swallowing.

In many instances the discomfort is brought on by exertion only and is quickly relieved by rest or glyceryl trinitrate. At other times the pain arises during rest and lasts an hour or more, thus suggesting possible cardiac infarction. Continued observation reveals that subsequent freedom from attacks of pain is more common in such individuals than in patients with true cardiac pain.

Esophageal arrhythmia is not to be confused with cardiospasm or achalasia or with the effects of carcinomatous obstruction at the lower end of the esophagus. The irregular esophageal movements are seen best by fluoroscopic study with the patient in the right oblique position after a swallow of moderately thick barium mixture, remarks William Evans, M.D.

The first portion of the meal halts, often momentarily, at the diaphragmatic opening and some or most then passes into the stomach. The next portion of the meal is again held up, and each additional supply of barium distends the lower end of the esophagus. As the act of swallowing proceeds, the air above presses on the column of barium below and causes the tube to swell still more, but the esophageal trap holds firm and the bulk of the meal fails to enter the stomach. The meal is then suddenly propelled upward in the gullet, whose lumen resumes the customary narrow caliber for a brief period.

This sequence of events may be reenacted several times before the barium is ultimately discharged piecemeal into the stomach. If the trap at the diaphragmatic opening remains closed, the esophagus may fill with a tall column of barium and not display the spectacular movements until partly emptied.

The typical spasm of the lower third of the gullet during the first phase of esophageal arrhythmia usually begins after part of the meal has entered the stomach un-

Esophageal contraction and cardiac pain. Lancet 263:1091-1097, 1952.

impeded, although the sphincter-like action may begin as soon as the meal reaches the affected part so that none of the meal proceeds beyond.

Whatever the basic cause for the spasm, the purse-string appearance of the barium-filled esophagus is an affair of the gullet, not merely a pinching at the diaphragmatic opening, since the constriction is often above this site. The sharp recoil of the meal up the gullet during the second phase is apparently caused by active retroperistaltic movement. The mechanism of the distress is in dispute, but the chest pain does not appear to be the direct outcome of esophageal spasm except in the case of segmental spasm.

Reassurance as to the innocent nature of the pain and temporary use of sedatives give the most consistent benefit to persons with esophageal arrhythmia. Additional relief may follow weight reduction of the obese, discontinuance of smoking, and the use of carminatives or other remedies intended to relieve gastrointestinal rather than cardiac symptoms.

Renal Calcification and Duodenal Ulcer

DONALD L. BECKER, M.D., ARCHIE H. BAGGENSTOSS, M.D., AND JAMES F. WEIR, M.D.

PARENCHYMAL calcification of the kidney is almost 3 times as common in patients with duodenal ulcer as in others.

The renal failure accompanying the syndrome occurs almost exclusively in cases showing loss of gastric juice and seems to result chiefly from dehydration and hemoconcentration. Patients with massive hemorrhage and hematemesis are likely to have alkalosis with hypochloremia, presumably because of the chloride loss in expelled blood, find Donald L. Becker, M.D., Archie H. Baggenstoss, M.D., and James F. Weir, M.D., of the Mayo Clinic, Rochester, Minn. Impaired hepatic function and excessive perspiration during warm weather are probably contributory.

The relation between renal calcification and clinically detectable renal failure is obscure. Apparently the renal parenchymal calcification must be severe to cause renal failure.

That the complete syndrome of alkalosis and renal failure develops with hyperalkalinization alone without the additive effect of other causes is questionable. Both a high intake of calcium, as in milk and alkali powders, and transient asymptomatic episodes of alkalosis are probably significant in the renal parenchymal calcinosis of patients with duodenal ulcers.

Parenchymal calcification of the kidneys in patients with duodenal ulcer. Am. J. Clin. Path. 22:843-854, 1952.

Postural drainage, antibiotic therapy, and supportive measures benefit patients with bronchiectasis.

Treatment of Bronchiectasis

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THE only definitive therapy for bronchiectasis is surgery, but operation is possible in not more than half the patients. Surgery cannot be done when the disease is too widespread, when cardiac or respiratory reserve is limited, or when the patient has serious concurrent disease.

Medical treatment affords symptomatic relief in these cases and is also useful in preparing the others for operation.

Bronchial infection and bronchial obstruction tend to produce the acquired form of bronchiectasis, states Sol Katz, M.D. The two constitute a vicious cycle, one inevitably leading to the other. Bronchitis and bronchopneumonia seem to have an etiologic relationship to the disease.

Bronchiectasis frequently involves the basilar portions of the lower lobes, especially on the left, with associated involvement of the lingula in about 85% of cases.

Postural drainage is important for the effective elimination of bronchial secretions. The lower lobes empty best with the patient hanging over the edge of the bed almost perpendicular to the floor. The procedure should be practiced every two hours during the day, lengthening the interval as secretions diminish, and should be continued until secretions can no longer be expectorated. During working hours, postural drainage can be done in a lavatory, the patient leaning as far forward as possible with knees bent and head close to the floor.

Bronchoscopy is performed at least once for diagnostic as well as therapeutic purposes. Usefulness of cough for clearing bronchial secretions is restored after the peripheral bronchi and alveoli are well aerated.

Antibiotic therapy decreases infection, thereby alleviating dyspnea. In chronic bronchopulmonary infection, penicillin may be helpful in decreasing sputum volume, lessening the purulence of the sputum, and improving the chronic inflammation of the bronchial wall.

For acute episodes, the broad-spectrum antibiotics or penicillin is effective. For the occasional exacerbation with predominant gram-negative bacilli, the broad-spectrum group or streptomycin and sulfadiazine are advisable. *Pseudomonas* infection may be sufficiently severe to justify the use of polymyxin B.

Best results frequently follow combined systemic and aerosol antibiotic therapy. Penicillin or streptomycin in a vehicle composed of

Treatment of lung abscess and bronchiectasis. GP 6:73-84, 1952.

bronchodilating and vasoconstricting agents is used in the nebulizer. Small-sized particles are formed if oxygen is blown through the nebulizer at a flow rate of 4 to 8 liters per minute. The addition of wetting agents lowers surface tension and enhances aerosol penetration.

Treatment is given four to six times daily for one to three weeks during acute exacerbations of bronchopulmonary infection, and two or three times daily for four to eight weeks during the chronic phase. Postural therapy should precede each aerosol session.

Neo-Penil will concentrate more highly in the lung than other forms of systemic penicillin and obviates use of aerosol penicillin, although bronchodilators and vasoconstrictors aid in promoting bronchial drainage.

Supportive measures include rest, adequate diet, fluids, abstinence from smoking, and avoidance of upper respiratory infections. Drugs which thin the bronchial secretions may be helpful.

Bronchiectasis may be prevented by vigorous treatment of the bronchopneumonia associated with influenza, whooping cough, or measles, slowly resolving or recurrent pneumonias, or postoperative atelectasis. Recognition of bronchial obstruction, especially foreign bodies in children, is extremely important for prevention of bronchiectasis.

¶ PRURITUS OF OBSTRUCTIVE JAUNDICE may be alleviated by oral administration of methyl testosterone. Daily sublingual doses of 25 mg. of the drug brought relief within seven days to 7 patients who had been pruritic for six weeks or longer, report H. G. L. Lloyd-Thomas, M.B., and Sheila Sherlock, M.D., of the Postgraduate Medical School of London. Testosterone propionate given by subcutaneous implantation is less effective. Increased serum bilirubin and diminished serum cholesterol result from prolonged methyl testosterone therapy. Masculinization of 3 of the 6 women treated was observed.

Brit. M. J. 4797:1289-1291, 1953.

¶ ADDISON'S DISEASE may result from extensive destruction of the adrenals by chronic disseminated coccidioidomycosis. Since suprarenal involvement is common with the latter condition, Patrick J. Maloney, M.D., of Springville, Calif., suggests that the rarity of Addison's disease as a complication is due to early death from the coccidioidomycosis or to retention of more than 5% of glandular tissue. Autopsies in 2 cases at Tulare-Kings Counties Hospital revealed invasion of the gland by granulomas and spherules consistent with the anatomic findings in longstanding mycosis.

Arch. Int. Med. 90:869-878, 1952.

Prevention or suppression of attacks and preclusion or mobilization of tophi are dual objects of gout therapy.

Management of Gout

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ADVANCE in the management of gout is offered by use of new therapeutic agents, ACTH, probenecid, and phenylbutazone, to replace or as additions to colchicine and salicylates.

Colchicine is employed [1] to terminate established attacks of acute gouty arthritis, [2] to abort impending acute attacks, and [3] to prevent recurrence of acute seizures in the intercritical periods of chronic gout.

In established attacks of gouty arthritis, colchicine is usually given in divided oral doses of 0.5 or 1 mg. every two to four hours until the attack subsides or diarrhea, nausea, or vomiting ensues. Usually substantial relief is attained after a total dose of 6 to 8 mg.

The gastrointestinal effects of colchicine may be severe and prolonged and are especially troublesome for patients with peptic ulcer, spastic colon, or similar disorders. Colchicine is not promptly or completely effective in all cases, particularly if therapy has been delayed.

To abort impending attacks of acute gout, the dose of colchicine is 0.5 to 1 mg. every two hours upon first intimation of an attack until a total of 3 or 4 mg. has been ingested. For regular administration to prevent recurrence of attacks, 1.5 or 0.5 mg. every night or every other night will usually suffice; in refractory cases, 1.5 or 2 mg. nightly may be required. These doses cause no gastrointestinal symptoms in most patients; drug tolerance does not develop.

ACTH is used chiefly to terminate established acute attacks of gout and is a potent agent for the purpose. Alexander B. Gutman, M.D., and T. F. Yü, M.D., start with 1 to 4 injections of 50 mg. each of ACTH on the first day; usually a total of 100 mg. is given per day. Daily doses of 50 to 200 mg. are continued one or two days, depending upon response, then slowly decreased to 20 mg., with adjustment to individual requirements, and continued for some time after subsidence of acute symptoms.

Premature termination of ACTH treatment may result in reappearance of symptoms. Exacerbation may be prevented by giving 1 to 2 mg. of colchicine or 0.6 to 0.8 gm. of phenylbutazone daily currently with the tapering off of ACTH. These drugs should be continued for some time after subsidence of acute symptoms.

Significant side effects are infrequent because of the short treat-

Current principles of management in gout. Am. J. Med. 13:744-759, 1952.

ment. Caution is urged for patients who have had peptic ulcer.

Phenylbutazone (Butazolidine) is nonspecific for acute gout but is a potent analgesic and antiphlogistic agent, more effective in controlling local and systemic manifestations than salicylates or neocinchophen.

With 0.8 gm. daily by mouth in 4 divided doses, remission of acute attacks is often complete within twenty-four to forty-eight hours. In most cases the response is more rapid than from colchicine or ACTH treatment.

Toxicity limits use of phenylbutazone. Although extreme care is essential, the hazard is less considerable in short-term therapy.

Probenecid (Benemid) is an exceedingly potent uricosuric drug without definite analgesic or antiphlogistic action in man and is of no value in treating acute gouty arthritis. Treatment is usually combined with colchicine prophylaxis and a restrictive diet.

Optimum daily dose is 1 to 2 gm. orally. Individual dosage depends on several factors. The first is the degree of uricosuric response measured by effects on urine and serum urate when taking a diet low in fat and purines and restricted to 50 to 80 gm. of protein daily.

The second is the therapeutic objective: If used prophylactically to prevent formation of new tophi, the minimum effective dose is 0.5 to 1 gm. If employed to mobilize established deposits, the maximum tolerated dose, usually 2 to 3 gm., is given.

Dosage requirements are also mediated by the latitude of the diet. With severe renal impairment, large doses are often required to maintain significant uricosuria and satisfactory levels of serum urate. When urate calculi have formed or when the uricosuric response is unusually pronounced, small doses are employed with caution, together with large fluid intake and an alkalinizing salt.

Probenecid treatment tends to provoke acute attacks during the first days or weeks. Allergic reactions may require reduction of dosage or complete withdrawal of the drug. Salicylates should not be given concomitantly with probenecid.

¶ PROCAINE AMIDE intramuscularly administered shows preferential action against ventricular arrhythmias. Because the method is painless, safer, and productive of rapid results in most cases, Charles D. Enselberg, M.D., and Martin Lipkin, M.D., of the New York Polyclinic Medical School, New York City, conclude that this route is superior to the intravenous. The recommended doses are initially 1 gm. (10 cc. of Pronestyl solution) and subsequently 0.5 to 1 gm. every two to six hours for premature systoles; and 1 to 2 gm. followed by 1 gm. every one to three hours for ventricular tachycardia. Slight hypotension may appear. Effects of the drug are evident within three to fifteen minutes, reach a peak within an hour.
Am. Heart J. 44:781-786, 1952.

Choice of anesthesia for cesarean section depends on the obstetric condition and the needs of the patient.

Anesthesia for Cesarean Section

CHARLES E. FLOWERS, JR., M.D.
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AS a cause of death in cesarean sections, anesthesia ranks second only to infection and accounts for about 20% of such fatalities. Since section is now used for between 3 and 6% of all deliveries, the importance of safe anesthesia cannot be overemphasized.

The anesthetist should be an expert in conduction technics as well as in endotracheal anesthesia and resuscitative measures. If such an anesthetist is not available, local infiltration should be employed.

The anesthetic and administration vary with the obstetric condition and the patient. For the *surgically prepared normotensive gravida,* Charles E. Flowers, Jr., M.D., recommends single-injection spinal anesthesia. Special care must be applied to technic. The pregnant patient has an extremely labile autonomic nervous system. Severe hypotension, intercostal paralysis, even maternal and fetal death may result if spinal anesthesia is not properly employed.

The patient is placed on the left side in spinal position. Intravenous drip at the rate of 60 drops per minute is started through a 17-gauge needle into the left arm from one of two 1,000-cc. flasks of 5% glucose, connected by a Y tube to the main intravenous tubing (see illustration).



Set-up for spinal anesthesia

A normotensive state must be maintained. For this purpose, a vasopressor, 1 cc. of noradrenaline, is added to the second flask of glucose for intravenous drip. The first flask is stopped when the anesthetic

Technics and indications for anesthesia in cesarean sections. New York State J. Med. 52:2753-2758, 1952.

is injected and the one containing noradrenaline is started, the rate of infusion being regulated by blood pressure readings every twenty seconds for the first five minutes of anesthesia and every two or three minutes thereafter.

For spinal injection, 50 mg. of procaine is mixed with 1 cc. of 10% dextrose, 5 mg. Pontocaine, and 0.5 cc. of 1 to 2,000 adrenaline. The procaine is added to prevent intercostal paralysis. The primary anesthetic agent, Pontocaine, would take from three to five minutes to demonstrate the level of anesthesia; procaine indicates this level within forty-five seconds. When anesthesia reaches the level of the ninth thoracic segment, the patient may be placed in 10° reverse Trendelenburg position and the operation performed.

Continuous spinal anesthesia may also be used for a surgically prepared normotensive patient and, properly administered, is the safest type of subarachnoid block. No individual dose should exceed 15 mg. of Metycaine or 50 mg. of procaine. An intravenous vasopressor drip should be employed. Although safe, this type of anesthetic requires considerable time, occasionally is not sufficiently profound, and is complicated by a 25% incidence of severe postspinal headache.

Patients with *toxemia of pregnancy* usually tolerate continuous spinal anesthesia exceedingly well.

In the *hypertensive and cardiac patient,* continuous peridural anesthesia through the lumbar or caudal space is advised. This allows for gradual segmental blocking of the sympathetic ganglia, the full level of anesthesia being reached in about ten minutes. The cardiovascular system can thus adjust to the increased vascular bed. An intravenous pressor drip guards against drops in blood pressure.

The usual dosage for lumbar peridural anesthesia is 12 cc. of 2% Xylocaine every thirty to forty minutes. For caudal peridural, the dosage is 20 cc. of 1% Xylocaine every thirty to forty minutes.

General anesthesia is preferred in *obstetric hemorrhage and anemia.* Speed is the chief advantage gained. The cardiovascular system is not affected. Possible vomiting and aspiration by the mother and delayed fetal respiration are the chief hazards.

The type of anesthetic is not as important as the ability of the anesthetist. Cyclopropane induction with ether maintenance is the best combination. To avoid fetal depression, anesthesia should not be begun until the patient is cleaned and draped. Anesthesia should be maintained between the first and second plane of the third stage. Slight oscillation of the eyes is a good criterion of this depth.

Endotracheal anesthesia must be given to obviate the risk of vomiting and aspiration if the patient has had a recent meal or has consumed food or liquid since labor started. No exceptions to this rule should be allowed.

If a competent anesthetist is not available to administer endotracheal anesthesia, local anesthesia should be used, preferably with the Beck technic. Satisfactory results are ob-

tained by 100 cc. of 1% Xylocaine with epinephrine and 600 turbidity-reducing units of hyaluronidase.

Patients with *prolonged labor or intrapartum infection* should receive continuous peridural or spinal anesthetic. Single-injection spinal anesthetic should never be used. Endotracheal general anesthesia may be employed if necessary.

With *prolapse of the umbilical cord,* the patient must be kept in the knee-chest position. A hypobaric spinal may be given in this position or a general anesthetic may be administered rapidly.

Apprehensive patients should never be given local or spinal anesthesia. Endotracheal general anesthesia is the preferred technic.

When spinal or peridural anesthesia is not successful and a vasopressor other than Neosynephrine has been used, cyclopropane must not be used. Ventricular fibrillation with cardiac arrest is the risk. Nitrous oxide, oxygen, ether, and Pentothal are the best agents.

When Pentothal is used after delivery in which local anesthesia was used, the same precautions should be taken as with general anesthesia. Laryngospasm, vomiting, and aspiration may result.

After the infant is delivered, careful slow administration of 50 mg. of Demerol and 100 mg. of Nembutal is helpful for patients who have had local, spinal, or peridural anesthesia.

¶ HYPERTENSION OF PREGNANCY when associated with acute toxemia can be successfully treated by synthetic compounds of the phthalazine group or by veratrum derivatives used alone or in combination, report N. S. Assali, M.D., and Roy Suyemoto, M.S., of the University of Cincinnati and the Cincinnati General Hospital. Ten to twelve minutes after an intravenous dose of 30 to 40 mg. of 1-hydrazinophthalazine (Apresoline) in severe preeclampsia, the blood pressure begins to fall, reaches normal levels within thirty minutes, and remains there for four to twenty-two hours. When the drug is given with veratrum derivatives, each in half of the effective amount, the fall in blood pressure is equal to or more than the decrease produced by either alone, the tachycardia from Apresoline is overcome by the bradycardia caused by veratrum, and other untoward reactions of both drugs are absent. If adequate vasodepressor effects are not produced by Apresoline and veratrum, Arfonad, a ganglionic blocking compound of the thiophanium group, may be tried. Effects are most pronounced in the neurogenic type of hypertension. Administration requires careful attention, including frequent blood pressure readings and readjustment of the rate of infusion. As no correlation exists between body weight and dosage, the quantity must be determined for each case when given by drip infusion.

Am. J. Obst. & Gynec. 64:1021-1036, 1952.

Occurrence of preeclampsia is not a countervailing reason for prolonged postponement of the next pregnancy.

Recurrence of Toxemic Pregnancy

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R. C. SMITTER, M.D.
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AFTER a pregnancy complicated by toxemia, the patient who desires another child should not wait two or three years for the vascular-renal system to return to normal before becoming pregnant again.

Renal impairment is rarely, if ever, caused by true preeclampsia-eclampsia. Many women have had toxemia of pregnancy but have no detectable resultant lesion when examined in later years. In most subsequent pregnancies toxemia does not recur.

Recognition of the various types of toxemia is of great importance. William J. Dieckmann, M.D., R. C. Smitter, M.D., and L. Rynkiewicz, S.M., believe that preeclampsia can be diagnosed correctly in 85 to 90% of cases. Patients who have more than the usual edema of pregnancy and frequently a slight hypertension or proteinuria, or both, do not have preeclampsia. These patients are not made worse by intravenous saline and, when given a test dose of sodium chloride, are able to secrete sodium ions in urine in greater concentration than preeclamptic women.

Patients who have had 2 or more pregnancies, the first of which was toxemic, were studied at the Chicago and New York Lying-in hospitals. Examination of the more than 1,600 records showed that 51% of all patients with nonconvulsive toxemia, over 85% of those with preeclampsia, and 75% with convulsive toxemia had a subsequent normal pregnancy.

If all the patients with toxemia of pregnancy are considered as a single group, then increasing age and parity of the patient are associated with an increasing rate of recurrence of toxemia in the next pregnancy. As the interval between the 2 pregnancies lengthens, the recurrence rate progressively increases for both multiparas and primiparas. The rate is much higher at the one-year interval for multiparas and ends at 81% for those who have seven-year intervals or longer.

The earlier in the pregnancy the hypertension appears, and the longer the duration, the more likely is recurrence in a subsequent pregnancy. Edema before the thirty-

Pre-eclampsia-eclampsia does not cause permanent vascular-renal disease. Am. J. Obst. & Gynec. 64:850-870, 1952.

first week of pregnancy is associated with a high rate of recurrence, but edema during the last few weeks does not increase the rate.

Statistically, a real difference is found between the group with the diagnosis of preeclampsia and the group with hypertensive disease if recurrence is used as a distinguishing criterion.

The onset of hypertension, proteinuria, or edema in early pregnancy or the continuation of any of these signs for more than five weeks is almost always associated with a diagnosis of hypertension which has a higher recurrence rate.

Neither parity nor age at the time of the first episode of toxemia modifies the recurrence rate of either preeclamptic or hypertensive patients. A pronounced preponderance of young primiparas is found among the preeclamptic group, and of older multiparas among the hypertensive group.

When the interval between the 2 pregnancies is over five years, the recurrence rate for preeclamptic patients is higher, regardless of age. If the patient had hypertensive disease, the recurrence rate is 89% and this is unaffected by other factors.

The woman under 25 is less likely to have hypertensive disease than one over 25, especially if she is a primipara. If she had preeclampsia, the shorter the interval to the next pregnancy, the less is the likelihood for the development of essential hypertension.

Contraceptive Effects of Gel Alone

G. WILSON HUNTER, M.D., AND C. B. DARNER, M.D.

SPERMICIDAL gel without a diaphragm provides a method of conception control which permits couples to achieve planned pregnancies with speed on discontinuance. Since use of the gel alone is often a new contraceptive technic for the patient, the physician should teach the patient how to introduce the gel-filled applicator so that the material will be deposited at the cervix.

Success of the gel-alone method depends also on two other precautions: [1] an applicator full of gel must be used before each coitus; and [2] douching must be avoided for six to eight hours after coitus.

A study of 744 private patients whose family spacing plan involved the use of the gel-alone method was undertaken by G. Wilson Hunter, M.D., and C. B. Darner, M.D., of the Fargo Clinic, Fargo, N. D. Defections for one reason or another narrowed this initial group to less than one-third of the original group. This group found Preceptin vaginal gel with no other contraceptive device satisfactory.

Clinical report on family planning. Journal-Lancet 72:555-559, 1952.

Greater interest is needed by the medical profession in the detection and therapy of ovarian cancer.

Carcinoma of the Ovary

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FREQUENT pelvic examinations and prophylactic removal of involuting ovaries will reduce incidence of ovarian cancer which ranks fourth among neoplasms as a cause of death for women over the age of 40. About 15% of all female genital cancers are ovarian in origin.

The problem of whether some ovarian tumors arise from precancerous lesions should be investigated. From a biologic standpoint, all types of new growth of the ovary are closely related to malignancy.

Any pelvic mass which cannot be definitely proved to be other than ovarian should be considered cancerous until proved otherwise, believe William F. Guerriero, M.D., J. W. Tabler, M.D., and Charles Bruce, M.D. Symptomless onset and symptomless progress to incurability constitute the natural history of ovarian carcinoma. Supposed myoma and pyosalpinx are frequently treated conservatively and found too late to be malignant.

The young woman with an ovarian tumor over 5 cm. in size is too often neglected on the assumption that the incidence of ovarian cancer is extremely low before the age of 30. However, statistics do not confirm this belief. If the tumor persists more than sixty days immediate laparotomy must be done.

Preparation of all patients before surgery for ovarian or other pelvic masses should include chest, gastrointestinal, and genitourinary roentgenograms, bowel sterilization, and restoration of adequate blood volume. Many ovarian carcinomas are secondary to cancer of the upper gastrointestinal tract, colon, breast, and uterus, so a careful investigation of these areas should be made before operation.

Preoperative irradiation is not recommended. Paracentesis in patients with ascites and ovarian tumors is needless meddling and may spread tumor cells.

The question of malignancy can be determined definitely and with finality only by histologic study. Carcinoma often occurs in only a small area of one of the multilocular cysts.

The presence of a pathologist at the operation for consultation

Carcinoma of ovary: newer aspects. South. M. J. 45:533-538, 1952.

and to give an immediate microscopic opinion by frozen section is invaluable. To determine the status of an apparently uninvolved ovary in gross unilateral ovarian cancer in a young woman when conservatism is desired, a bivalve biopsy section is removed through the entirety of the carefully isolated uninvolved ovary.

The predominant rule should be complete removal of the cancer process to include the entire pelvic viscera and, in some cases, the omentum, bowel, and bladder. Every effort should be made to remove the primary tumor mass, since many cases have been reported in which the procedure caused a prolongation of life past five years.

Postoperative irradiation should be used even though the sensitivity of ovarian carcinomas varies.

Management of Postpartum Hemorrhage

AUGUST F. DARO, M.D., HARVEY A. GOLLIN, M.D.,
AND VINCENT LAVIERI, M.D.

THE most deceptive and dangerous type of postpartum hemorrhage is a slow steady oozing that results from uterine atony and begins shortly after the placenta is expelled.

Muscles at first contract, closing the sinuses and giving the impression that all is well, but soon relax and allow blood to escape. The patient may collapse before serious loss of blood has been recognized.

Prolonged administration of oxytocics may be effective when massage of the uterus and perfunctory dosage fail. At the University of Illinois, Chicago, August F. Daro, M.D., Harvey A. Gollin, M.D., and Vincent Lavieri, M.D., employ two methods.

To avert expected bleeding, Pitocin and Ergotrate are given alternately for several hours. The first drug induces rhythmic and the second persistent contraction. If blood flow has already started, Pitocin alone is injected.

Hemorrhage is most likely after abruptio placentae, long difficult labor, multiple births, polyhydramnios, or a former postpartum episode. As a preventive, 5 minims of Pitocin is injected subcutaneously and 0.5 cc. of Ergotrate intramuscularly or intravenously, each drug in turn, every thirty minutes for four to six hours.

With active bleeding, the birth canal is examined for injury or retained placental tissue. Lax muscles are retracted easily and quickly by 1 or 2 cc. of Pitocin infused intravenously in 1,000 cc. of 5% glucose in distilled water.

A management of postpartum hemorrhage by prolonged administration of oxytocics. Am. J. Obst. & Gynec. 64:1163-1166, 1952.

Preoperative use of irradiation is a valuable means of improving end results with endometrial cancer.

Radiation of Endometrial Carcinoma

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PREOPERATIVE intrauterine use of the Y-shaped radium applicator of Schmitz destroys endometrial carcinoma in approximately 75% of cases.

Dosage is 6,000 mg. hours of radium within the cavity besides 4,000 r of 800 kv. x-ray to the midpelvis. Histologic studies reveal changes in the endometrium, myometrium, blood vessels, and cells indicating that tumor cells, if carried through the blood stream or lymphatics or dropped in the operative field, would not be likely to survive.

Herbert E. Schmitz, M.D., Charles J. Smith, M.D., and Chester J. Gajewski, M.D., recommend a radical extended radiation technic to include the parametrium and regional lymph nodes.

Treatment

A Schmitz radium applicator is placed in the uterine cavity at the time of diagnostic curettage. External radiation offers an advantage if given first but, when the tumor has been disturbed by the biopsy procedure, the immediate application of radium has a more rapid effect on the tumor cells.

When 2,000 mg. hrs. have been delivered, the radium is removed and is reinserted twice more at intervals of eight days. Roentgen therapy through multiple ports is given on the days the radium is not in the uterus. Reinvading the uterine cavity has proved advantageous.

Antibiotics are used to prevent sepsis. Dilatation of the cervical canal prevents pyometra or hematometra. Careful biopsy furnishes tissue to study the effects of irradiation on the tumor cells.

If the uterus is not to be removed for valid reasons, further periodic curettage is done to determine the activity of the tumor. Negative results from curettage are not accepted as evidence that the tumor has been destroyed in every instance.

The intensity attained at the periphery of the uterus is 4 skin erythema doses when 50 mg. of radium elements is inserted in each arm and stem of the Y applicator and applied for fourteen hours at eight-day intervals for a total of 6,300 element hours. With use of the Y applicator, the distribution of radium intensities will attack the

The effect of preoperative radiation of adenocarcinoma of the endometrium. Am. J. Obst. & Gynec. 64:952-970, 1952.

entire tumor if the growth is to be limited to the uterus.

Roentgen therapy is applied through multiple ports arranged so as to shield the bladder and rectum from overdosage. Parametrial tissues and pelvic lymph nodes are irradiated.

Physical examination does not positively reveal whether a carcinoma of the cervix or uterus has metastasized to lymphatics and regional lymph nodes.

The surgical procedure recommended is a radical panhysterectomy and lymph node dissection regardless of the size of the primary growth.

Secretory Disease and Plasma Cell Mastitis

J. GERSHON-COHEN, M.D., AND HELEN INGLEBY, M.B.

THE nipple area is the usual site of involvement in secretory disease of the female breast. The condition represents an abnormal attempt at lactation in the nonpuerperal breast.

The lesion is generally bilateral and more common than supposed. Owing to chemical irritation of ducts, plasma cell mastitis frequently develops. Lesions are not precancerous, and inflammation tends to subside without treatment.

At the Albert Einstein Medical Center, Philadelphia, 24 cases of secretory disease, including 16 with plasma cell mastitis, were observed by J. Gershon-Cohen, M.D., and Helen Ingleby, M.B. Patients were 34 to 67 years old.

The first pathologic change is hyperplasia of duct walls. Secretory cells form, degenerate, and are cast off into the lumen, which may become dilated.

In some cases a discharge occurs and, if tissues are inflamed, a painful mass may develop, varying from a few millimeters to 3 or 5 cm. in diameter.

The diagnosis may be confirmed by radiography. In older women, ducts appear distended, with a tortuous course ending in club-shaped dilatation or flame-like projections. A group of ducts may coalesce. At younger ages, a uniform ground-glass appearance is seen; trabecular markings are blurred or absent.

A smear of the nipple discharge contains colostrum cells and often inflammatory cells. When ducts ulcerate, degenerate erythrocytes appear.

Treatment is not necessary except for comfort. If surgery is employed, the entire diseased region should be removed, to avoid complications such as a discharging sinus.

Secretory disease and plasma cell mastitis in the female breast. Surg., Gynec. & Obst. 95:497-504, 1952.

Though not advocated routinely,
elective induction of labor, used judiciously,
will benefit some patients.

Elective Induction of Labor

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PRECIPITOUS deliveries in an undesirable environment and under hazardous conditions may be prevented if prospective mothers enter the hospital on an appointed day and labor is induced under ideal conditions.

Careful choice of patients is essential. Elective induction is a safe and justifiable procedure for selected multigravidas. Since one has no foreknowledge of the type of labor to be expected or the size of the fetus the pelvis will accommodate, elective induction is not indicated for a primigravida except in an occasional case.

The most important factor is a ripe cervix, one that is at least one-half effaced and admits 2 fingers. The baby must be large enough and the presenting part fixed or depressible in the pelvis before labor is induced.

A previous labor of eight hours or less, domicile some distance from the hospital, progressively larger babies in earlier deliveries, cervix dilated 3 cm. or more, an anxiety complex, some unusual personal or family circumstance are factors to consider in advising elective delivery.

Labor should not be induced in cases of cephalopelvic disproportion or adverse previous obstetric history.

In 600 elective inductions, labor lasted not more than twelve hours in 564, report H. W. Erving, M.D., and Anthony N. Kenwick, M.D. Extremes were one-half and thirty-three hours. None of the mothers died. All of the 13 fetal deaths were classified as nonpreventable.

Rupture of the membranes is the best method for induction. The patient is admitted to the hospital having eaten no solids for at least eight hours. She is prepared for delivery, given an enema and vitamin K, and then sent to the delivery room. Here 1 minim of Pitocin is given the patient to keep the fetal head fixed in the pelvis.

After a vaginal examination is made and the pelvis measured, 2 fingers are introduced through the cervix. If no bulging membranes are present, the head is slightly displaced and the membranes stripped to form a bag of forewaters. The membranes are perforated with dressing forceps while an assistant pushes down on the fundus. A moderate amount of fluid is released. Cord prolapse is prevented by keeping the fingers through the cervix.

After the head is well down in

Elective induction of labor. Am. J. Obst. & Gynec. 64:1125-1130, 1952.

the pelvis, 1½ gr. of Nembutal is given rectally and the patient returned to bed, the head of which is sharply elevated to keep the presenting part in the pelvis. If labor has not started in eight hours, Pitocin in 1-minim doses at half-hour intervals may be used. Fetal heart sounds should be recorded frequently.

Intracranial Pressure in the Newborn

MAX BERGER, M.D.

INCREASED intracranial pressure in the newborn appears as cerebral edema without injury to the vessels or as intracranial hemorrhage. The latter is the more fateful condition, being found in postmortem examinations of approximately 65% of infants dying before 5 months of age.

The diagnosis is based on general and focal symptoms, change in quality and type of respiration, pallor or cyanosis, and increased bulging of the fontanelles. The infant is usually restless. Convulsions are often provoked by even slight stimulation.

Max Berger, M.D., of the University of Bern, Switzerland, lists 8 etiologic factors in order of importance as: forceps delivery, protracted labor, prematurity, improper resuscitation, maternal pelvic abnormalities, precipitated labor, dry delivery, and toxicity of pregnancy.

Overriding of the parietal and occipital bones compresses the sagittal and transverse sinus, causing stasis and edema or extravasations. If the process is slow, edema is most likely to occur; if the change is fast, vessels, and sometimes the tentorium, are torn.

Treatment involves decompression by repeated punctures or by evacuation of the hematoma, if possible. Sedation, vitamin K, proper oxygenation, and careful nursing are of great importance to successful outcome.

Of 115 infants with increased intracranial pressure immediately after birth, 30% died in the first week of life. A five- to twenty-year observation period showed that only about 20 of the survivors had normal intellects, the others being idiots, morons, or of borderline intelligence. Increased incidence of enuresis, epilepsy, and behavior disturbances was also noticed.

The best prophylaxis is skillful conduction of labor, especially in premature birth or dystocias, wider indications for cesarean section, and extreme care in forceps deliveries, particularly middle or high.

Über Hirndruck post partum. Gynaecologia 134:323-346, 1952.

If caloric intake is adequate, children with celiac disease improve and grow on a gluten-free diet.

Management of Celiac Disease

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Hospital for Sick Children, London

AFTER good control is established in celiac disease, the child's diet should be normal except for absolute exclusion of wheat and rye flour.

Packaged and canned foods, including soups, meats, dry cereals, and various mixtures to be added to milk or for preparing desserts, must be avoided because of the wheat or rye flour content. Gluten-free pure wheat starch, rice, potato, and soya flours may be used to prepare bread and cakes.

For a severely ill young child, Wilfrid Sheldon, M.D., and David Lawson, M.D., advise 4 foods: skimmed milk, glucose, banana purée, and a mixture of dried skimmed milk with added protein that has a composition of 7.75% protein, 0.125% fat, and 3.4% carbohydrate when 1 dram of powder is added to 1 oz. of water; 1 tsp. of glucose is added to every 2 oz.

The child is fed every four hours, 5 or 6 feedings being given in twenty-four hours, usually 8 oz. at a time. Banana purée is taken separately or mixed with some of the milk material, starting with ½ banana daily and increasing to a whole banana. Banana is omitted if disliked by the child. To consolidate frequent and watery stools, 2 or 3 tbs. of Arobon, a carobbean preparation containing lignin, pectin, and cellulose, may be added to each 8-oz. feeding.

Vitamin supplements include vitamin C as a 25-mg. tablet of ascorbic acid daily, vitamins A and D as 10 drops daily of a liver oil concentrate, and often in the early stages, vitamin B.

The initial diet is changed when the child shows interest and pleasure in eating. The first additions are minced chicken, egg custard, and biscuits made from soya flour and spread with butter and honey. Subsequent foods are sieved starch-free vegetables, such as cabbage, cauliflower, beetroot, and tomato, sieved fruits, and cheese. Each child requires separate study for likes and dislikes, and only 1 new food is tried daily, first trials being made with tablespoon helpings.

Milk is skimmed until the stools are of good consistency and down to 1 or 2 daily. Skimming is then progressively discontinued until whole milk is fed, although this stage may not be reached until chicken, egg custard, and soya biscuits are included. The mixture of dried milk with added protein is continued with either skimmed or

The management of coeliac disease. Lancet 263:902-905, 1952.

whole milk until the menu becomes comprehensive.

Finally starch is added, all gluten-containing foods being strictly avoided. First, starch prepared from wheat flour from which gluten has been removed is tried. Later, flours not containing gluten, such as potato and rice, and foods made from corn and oats are used. At this time the child is sent home from the hospital, but continues to eat gluten-free food, visiting the hospital as an outpatient.

The potato, rice, or corn meal may increase the size of the abdomen but is eaten with such relish that omission for this reason seems unnecessary. Occasionally these foods cause slight colic or discomfort, which indicates continuation of starch-free food for three or four more weeks before very gradual resumption of these flours.

Rheumatic Fever Prevention

HAROLD B. HOUSER, M.D., AND GEORGE C. ECKHARDT, M.D.

TREATMENT of streptococcal respiratory infections is effective in reducing the incidence of initial or recurrent rheumatic fever, since such infections nearly always precede an attack of rheumatic fever.

The streptococcal involvement starts suddenly with sore throat on swallowing, chills, fever, headache, myalgia, and vomiting. The pharynx and uvula are diffusely red and swollen and tonsillar or pharyngeal exudate is often seen. The lymph nodes at the angles of the jaw are enlarged and tender. Leukocytosis is common. Throat culture usually reveals predominant beta hemolytic streptococci.

If the patient has never had rheumatic fever, Harold B. Houser, M.D., of the State University of New York, Syracuse, and Capt. George C. Eckhardt, M.C., A.U.S., of Warren Air Force Base, Wyo., and Western Reserve University, Cleveland, recommend treatment with penicillin injections to maintain effective blood levels for at least six days. Aureomycin should be reserved for patients who cannot tolerate penicillin.

Patients who have or have recently had active rheumatic fever should be given 0.5 to 1 gm. of sulfadiazine daily for at least three years. A streptococcal sore throat in any of these patients should be treated immediately for at least ten days with 600,000 units of procaine penicillin G daily.

Patients whose last attack of rheumatic fever occurred more than two years before or who have evidence of rheumatic heart disease but no history of rheumatic fever should receive prophylaxis whenever exposed to an undue risk of streptococcal infection.

Recent developments in the prevention of rheumatic fever. Ann. Int. Med. 37:1035-1043, 1952.

Prompt blood studies are advisable for infants and children with bleeding from the gastrointestinal tract.

Alimentary Hemorrhage in Children

DONALD BRAYTON, M.D., AND WILLIAM J. NORRIS, M.D.
University of California, Los Angeles

EXCLUDING cases of trauma, no primary gastrointestinal hemorrhage in infants or children necessitates emergency surgery other than the occasional use of balloon tamponade of the esophagus. Early diagnosis is essential.

Before transfusions are started, sufficient blood should be drawn for blood studies, including typing and crossmatching, complete blood count, platelet count, bleeding and clotting times, prothrombin time, and, possibly, clot retraction time. Any gross abnormality of the blood other than secondary anemia or moderate leukocytosis should be assumed to indicate a dyscrasia as the cause of bleeding until proved otherwise.

If results of the initial blood studies are normal, local investigation of the gastrointestinal tract by roentgenographic or other means should be done as soon as the circulation is stabilized, whether or not the hemorrhage has ceased. In most cases the etiology is readily apparent, but in some is determined only after extensive investigation, if at all.

Donald Brayton, M.D., and William J. Norris, M.D., report a study of 428 infants and children with alimentary bleeding seen during a fifteen-year period. The diagnosis of the cause was difficult in 15% and unknown in 6%.

Hemorrhage may be the primary and leading sign but more often is a secondary or incidental factor of another disease or syndrome. Local gastrointestinal lesions are responsible for 60% of alimentary hemorrhages during the pediatric age.

In the upper tract, esophageal varices, peptic ulcer, hiatus hernia, and acute gastritis may produce bleeding. Varices are the most common local cause of hematemesis. The only fatal hemorrhages from local lesions in the series resulted from esophageal varices before the use of balloon tamponade.

Lower intestinal lesions include intussusception, polyps of colon and rectum, Meckel's diverticulum, hemangioma, congenital stenosis of the colon, and local anorectal conditions. Bloody stools appear in over 60% of cases of intussusception.

With polyps, the blood is usually liquid, bright red, and outside the stool.

Hematochezia with clots, accompanied by a definite reduction in hemoglobin, may indicate Meckel's diverticulum but is not pathogno-

Gastrointestinal hemorrhage in infancy and childhood. J.A.M.A. 150:668-671, 1952.

monic. Since the lesion can be demonstrated only by operation, possibility of other sources of bleeding should be eliminated before laparotomy is done.

Anorectal conditions such as anal fissure, cryptitis, imperforate anus, low rectovaginal fistula, and irritation by hard stools produce bright red liquid blood usually outside the stool.

General gastrointestinal factors such as enterocolitis, ulcerative colitis, persistent vomiting, constipation with impaction, trauma, and swallowed blood and other foreign materials may produce bleeding.

A blood dyscrasia is the most likely cause of fresh blood coming from both alimentary orifices, but all types and combinations of hemorrhage may be seen, with purpura.

Tracheotomy in Laryngotracheobronchitis

J. N. BRIGGS, M.D., AND J. R. HESELTINE, M.B.

WHEN a child with acute nondiphtheritic respiratory infection has cyanosis and extreme fatigue with increasing restlessness, pallor, and stridor, tracheotomy may be lifesaving. The time to perform the operation varies with the patient; as a last desperate expedient, tracheotomy is doomed to failure.

Early in this disease, viscid secretions extend throughout the respiratory tract, including the smaller bronchi and terminal bronchioles. Removal of the obstruction is imperative to prevent suffocation.

Oxygen, humidity, and antibiotics will suffice for most children. Others require frequent deep aspiration employing a polythene catheter. To reach the small bronchi and bronchioles, electrical suction is necessary through a bronchoscope, endotracheal tube, or tracheotomy.

When repeated suctioning is required for very young children, tracheotomy is the only feasible procedure. Intubation or a bronchoscope may be employed as an emergency procedure before the tracheotomy.

J. N. Briggs, M.D., and J. R. Heseltine, M.B., of the Children's Hospital, Sheffield, England, believe that at any stage of the disease, the possibility of tracheotomy must be kept in mind. The operation may be needed [1] as an emergency on admission because of acute glottic obstruction, [2] early for the patient whose condition deteriorates rapidly despite adequate therapy, or [3] late for those who do well at first with conservative therapy but begin to regress after twenty-four or thirty-six hours.

Tracheotomy in acute obliterative laryngotracheobronchitis. Brit. M. J. 4793:1064-1067, 1952.

Diagnosis of endocardial sclerosis cannot be confirmed until death, but some manifestations are indicative.

Endocardial Sclerosis

RICHARD W. BLUMBERG, M.D.
Emory University, Atlanta

ROBERT A. LYON, M.D.
University of Cincinnati

ONE of the commonest forms of fatal heart disease in infancy is endocardial sclerosis. Death usually occurs before 2 years of age and is almost always accompanied by considerable heart enlargement.

Postmortem examination reveals a white coating of fibroelastic tissue on the endocardium of the left ventricle or atrium. When extensive, the right side of the heart and the valves are also involved.

In a review of 94 cases, Richard W. Blumberg, M.D., and Robert A. Lyon, M.D., found that symptoms were noted before 2 weeks of age in 36%, and before the age of 6 months in 65%. When the aortic valve is involved besides the wall of the left ventricle, symptoms of cardiac failure develop and death occurs earlier than when the aortic valve is spared.

The symptoms of heart failure appear suddenly and continue with increasing severity until death. Infants considered to be entirely well suddenly begin to breathe rapidly, vomit or cough and are brought to the hospital literally gasping for breath. Half the patients die within two weeks of the initial attack.

In other cases, symptoms of lesser severity are noted over long periods, sometimes from birth, with remissions and exacerbations until a fatal attack. Respiratory illnesses are most frequently suspected. Only when a roentgenogram of the chest is made is the enlarged heart discovered.

Of the symptoms of cardiac failure, dyspnea is the most frequent, occurring in three-quarters of all patients. Cyanosis is observed but usually terminally or during bouts of acute cardiac decompensation. When the lesions are extensive and involve the aortic valve, cyanosis is prominent and occurs early.

Edema is infrequent, although hepatomegaly is found in 38% of cases. The heart is almost always enlarged and may attain tremendous proportions. Soft systolic apical murmurs are noted in about one-fourth of patients and are often inconstant or develop during episodes of failure.

The treatment of endocardial sclerosis is directed toward combating the cardiac decompensation and consists of rest, oxygen, digitalis, and diuretics.

Endocardial sclerosis. Am. J. Dis. Child. 84:291-308, 1952.

Upset of starvation-keyed metabolism may cause the syndrome seen during process of recovery.

Nutritional Recovery Syndrome

FREDERICO GÓMEZ, M.D., RAFAEL RAMOS GALVÁN, M.D., AND JOAQUÍN CRAVIOTO MUÑOZ, M.D.
Hospital Infantil, Mexico, D.F.

YOUNG children recovering from advanced malnutrition have a specific clinical syndrome, which is probably the result of the upsetting of a metabolic equilibrium reached during long periods of starvation.

The first sign, hepatomegaly, may be perceptible within the first two weeks of therapy and be still noticeable when the children leave the hospital. Other signs and symptoms develop in sequence, the principal phenomena being observed during the time satisfactory weight is being gained.

Frederico Gómez, M.D., Rafael Ramos Galván, M.D., and Joaquín Cravioto Muñoz, M.D., report a study of 34 children with the nutritional recovery syndrome and have observed similar effects in all preschool aged children treated for severe malnutrition.

When admitted for treatment, the children have a type of malnutrition resembling pellagra. Weight is about 55% of normal; nutritional edema, pellagroid erythema, dry and scaly skin, hyperkeratosis, perifolliculitis, cheilosis, glossitis, and loss of reflexes are noted.

Treatment includes an ad libitum diet of up to 200 calories or more per kilogram of body weight with 50 gm. of liver. Frequent blood or plasma transfusions in amounts of 10 cc. per kilogram of body weight are used. No vitamin supplements are given.

The following sequence, comprising the nutritional recovery syndrome, appears:

A transient weight loss is followed by progressive weight gain. Edema disappears completely in ten to twenty-four days.

The principal factors of the syndrome are seen about three to six weeks after start of therapy—pronounced hepatomegaly, the liver being palpable 4 to 7 cm. below the costal margin, abdominal distention, superficial thoracoabdominal venous network, and ascites lasting eight to fifteen days. The latter condition is seen in about 50% of cases.

The signs and symptoms usually increase for about two weeks, then decrease and disappear almost completely in sixty to over a hundred days. By the sixtieth day of treatment, considerable hypertrichosis of the shoulders, face, and thighs may be seen in about 50% of cases.

Before establishment of the syndrome, total protein, albumin, al-

Nutritional recovery syndrome. Pediatrics 10:513-526, 1952.

pha and beta globulins are low but the gamma globulins are significantly high. Shortly after the syndrome appears, the total protein returns to normal levels while the gamma globulin level increases and the hypoalbuminemia persists. About thirty to forty-five days after onset of the syndrome, albumin is decreased and gamma globulin and total proteins are increased.

Abnormal reaction in thymol turbidity tests, with normal values in cephalin-cholesterol tests, becomes more frequent as the syndrome develops. Hepatitis is indicated in 75% of the abnormal liver biopsies. Lesions of fatty metamorphosis and protein depletion are also seen. Some of the patients have eosinophilia sixty to seventy-five days after start of the recovery syndrome.

The ascites is probably caused by an antidiuretic factor produced in the injured liver, embarrassed portal circulation, and dysproteinemia. Hypertrichosis is clearly of endocrine origin. The highest level of gamma globulin coincides with the appearance of portal hypertension.

Steroid Hormones for Mammary Carcinoma

IAN MAC DONALD, M.D., FREMONT E. DAVIS, M.D.,
AND GEORGE JACOBSON, M.D.

ESTROGENS are effective as primary therapy for postmenopausal breast cancer with soft tissue involvement. Best results in terms of increased longevity are obtained for postmenopausal women given a combination of estrogenic steroids and roentgen irradiation, find Ian MacDonald, M.D., Fremont E. Davis, M.D., and George Jacobson, M.D., of the University of Southern California and Los Angeles County Hospital, Los Angeles.

The most notable histologic effect of steroid therapy is a stromal sclerosis in neoplastic sites. Evidence of a specific cytotoxic effect is lacking.

Particularly for premenopausal women, roentgen irradiation is generally more effective than primary use of steroids in management of recurrent and metastatic mammary carcinoma. In premenopausal cases, androgenic steroids, which cause more distressing side effects than estrogens do, should be reserved for radioresistant processes and for involvement too widespread for roentgen therapy.

A distinct correlation exists between increase in longevity and lack of anaplasia in patients treated with steroids, but evidence does not indicate whether this correlation results from natural causes or from the therapy.

Steroid hormone therapy in mammary carcinoma. Am. J. Roentgenol. 68:954-962, 1952.

Establishment and maintenance of a patent airway is the first step in resuscitation of a suffocating newborn.

Asphyxia Neonatorum

DAVID M. LITTLE, JR., M.D., L. JENNINGS HAMPTON, M.D., AND MARY LOUISE WHITE, M.D.

Yale University and Grace–New Haven Community Hospital, New Haven, Conn.

ANOXIA continues as a major cause of neonatal fatality or of irreparable damage to the central nervous system. Only by prevention or rapid treatment of asphyxia neonatorum can death or crippling sequelae be avoided.

Prophylaxis in the ante- and intrapartum periods is often possible, especially through choice of drugs and methods employed during delivery, declare David M. Little, Jr., M.D., L. Jennings Hampton, M.D., and Mary Louise White, M.D.

The primary pathologic change in asphyxia neonatorum is complete atelectasis of the lungs. Secondarily the blood vessels in all tissues and organs become congested. Anoxia decreases the oxygen concentration and augments carbon-dioxide tension; the lactic acid increases and the hydrogen ion concentration of the blood diminishes.

Though good prepartum therapy of some maternal diseases may be lifesaving to the child, most maternal factors tending to cause asphyxia neonatorum are rarely subject to prophylaxis. The incidence of fetal asphyxia is increased for primiparas and for women over 40 years old or who have had 8 pregnancies.

Since breech, transverse, and occiput posterior positions increase the likelihood of asphyxia, antenatal external cephalic version for breech presentation is a prophylactic measure.

Medical induction of labor is a factor in some instances of asphyxia, as is the duration and type of labor.

Thus, version and extraction, high and midforceps, breech extractions, cesarean section, and low forceps without episiotomy are associated with a higher frequency of anoxia than spontaneous delivery.

However, cesarean section may save the infant by obviating a long dry labor or the prolonged difficult labor associated with cephalopelvic disproportion, both of which favor asphyxia.

All forms of analgesia and anesthesia may cross the placental barrier and become obstacles to postnatal respiratory activity. Premature infants are especially prone to anoxia but may overcome this disadvantage if not narcotized. Therefore, patients having prema-

Asphyxia neonatorum: the syndrome, its prevention and its treatment. Anesthesiology 13:518-539, 1952.

ture labor should be candidates for conduction anesthesia.

A latent form of respiratory distress after onset of apparently normal respirations may occur shortly after cesarean section. This disaster may possibly be avoided by performing gastric aspiration after delivery to prevent regurgitation and aspiration of gastric contents several hours later. The technic is simple, but must be gentle.

When prophylaxis is impossible, resuscitation is necessary in case of asphyxia neonatorum. Establishment and maintenance of a patent airway is mandatory. The first maneuver should be gentle aspiration of the nares, mouth, pharynx, and, when necessary, the trachea and upper bronchial tree. If the child is in the stage of flaccidity, endotracheal intubation, preferably with an infant laryngoscope, must be done promptly.

A 15 to 30° Trendelenburg position is best to promote respiratory tract drainage. Suspension by the feet or vigorous methods of stimulation may promote cerebral hemorrhage. Gentle external stimulation, such as cutaneous friction and passive movements of the extremities, may produce afferent impulses and initiate respiration.

If the infant does not respond immediately to the above methods, oxygen must be given at once. The use of carbon dioxide is to be condemned; such gas, even in low concentrations, becomes a depressant in conditions of anoxia.

No infallible method of overcoming atelectasis has yet been devised. The resistance of the atelectatic lung amounts to from 18 to 30 cm. of water. Mechanical resuscitators provide pressures far lower than those necessary to overcome resistance and yet may produce gross pulmonary damage.

Recent methods on trial are: [1] curare with the infant Drinker respirator, [2] electrophrenic respirator, and [3] positive pressure oxygen air lock.

The infant should be kept warm by blankets, tub, or incubator throughout the resuscitative period and thereafter.

Stimulatory drugs such as alpha lobeline, Pituitrin, camphor, coramine, picrotoxin, Metrazol, caffeine, or strychnine can produce more harm than good and should not be used.

¶ SPINAL ANESTHESIA is too dangerous for use in uncomplicated obstetric cases. Occurrence of chronic adhesive arachnoiditis with paraplegia in 6 of 1,272 patients observed by Herbert E. Rosenbaum, M.D., and associates of Washington University, St. Louis, has resulted in discontinuance of saddle-block anesthesia at the St. Louis Maternity Hospital. Failure to recognize this procedure as the cause of paralysis may be due to the long interval of weeks or months between the intrathecal medication and the actual onset of symptoms.

Arch. Neurol. & Psychiat. 68:783-790, 1952.

Special Exhibit

Practical Clinical Alimentation

A special exhibit presented by Morton D. Pereira, M. D., and E. J. Conrad, M. D., of the Homer G. Phillips Hospital and Washington University, St. Louis, at the American Medical Association Convention in Chicago.

Criteria for successful tube feeding

TUBE

Small-bore
Inconspicuous
Soft
Nonirritating
Physically acceptable
Psychologically acceptable
Allow free flow of mixture
Durable to avoid changing



3-mm. polyvinyl tubing

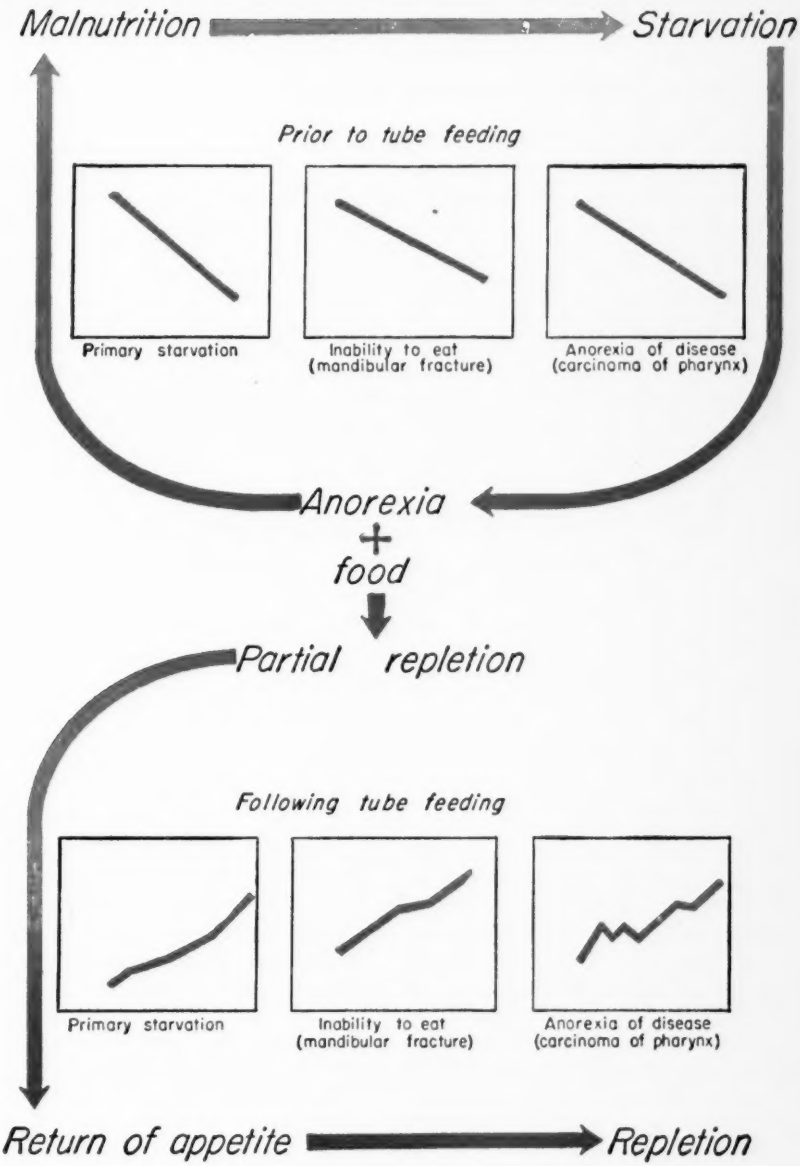
DIET

Sterile
Liquid
Remain in fine suspension
Produce no gastrointestinal irritation
Provide a complete repletion ration

Milk protein	210 gm.	840 cal
Dextrins-maltose	630	2520
Fat	10	90
Vitamins	R_x	Forumula
Iron	10 mg.	
NaCl	5 gm.	
KCl	5	
Choline Cl	500	
Trace elements		present
Water	2400 ml.	

METHOD OF ADMINISTRATION

Initial feeding of malnourished by continuous drip and subcaloric amount
Polyvinyl tube is easily passed
May be left indwelling three months or more
May be given at home by continuous drip or intermittent syringe instillation
Patients may continue usual activities
Patients may mix formula and feed themselves


Malnutrition
Starvation
Prior to tube feeding
Primary starvation
Inability to eat (mandibular fracture)
Anorexia of disease (carcinoma of pharynx)
Anorexia
+
food
Partial repletion
Following tube feeding
Primary starvation
Inability to eat (mandibular fracture)
Anorexia of disease (carcinoma of pharynx)
Return of appetite
Repletion

A small amount of blood given by artery raises aortic pressure and restores vigorous heart action.

Intraarterial Transfusions

J. ROSS VEAL, M.D., ARCH S. RUSSELL, M.D., AND DONALD STUBBS, M.D.
Georgetown University, Washington, D.C.

MANY lives could be saved if all hospitals were prepared to give intraarterial transfusions when needed. The procedure should not be considered a last resort or heroic measure, believe J. Ross Veal, M.D., Arch S. Russell, M.D., and Donald Stubbs, M.D., who report that the complications associated with the technic have been largely overcome.

If appropriate treatment is not instituted during moderate stages of shock, complete circulatory collapse ensues from progressive blood loss. Aortic resistance is insufficient for forceful contraction of the heart, perfusion of blood through the tissues ceases, and death is imminent.

Blood given intravenously overloads venous channels, causing further cardiac dilatation and pulmonary congestion. To reestablish blood flow, the heart must resume effective pumping with enough volume and force to perfuse blood throughout the body tissues. This can be accomplished by injecting blood into the arterial circulation at a pressure greater than arterial tension. The blood moves directly into the coronary arteries, cerebral vessels, and even the left ventricle.

A relatively small amount of blood is usually sufficient to raise aortic pressure and invigorate action. The heart soon regains size and resiliency. The contractions are strong and regular and blood pressure rises. The improvement in circulation is usually maintained.

Indications

In the following conditions intraarterial transfusion is recommended:

- Massive hemorrhage with acute circulatory failure
- Severe traumatic shock with peripheral circulatory collapse
- Prolonged moderate but progressive shock when intravenous therapy has failed
- Shock with cardiac failure when intravenous fluids are not advisable
- Moderate to severe shock when only small lots of blood, or rare types, are available.

Technic

Standard intravenous transfusion sets may be adapted to arterial infusion. An expendable filtering transfusion set with a static pressure at the needle tip of 140 ± 10 mm. of mercury will suffice.

For cannulization of the vessel, the cut-down method is usually the most satisfactory, but direct trans-

Intra-arterial transfusion: indications and technic. Am. Surgeon 18:1150-1159, 1952.

cutaneous puncture or puncture of an exposed artery in a surgical wound may be used. The radial artery at the wrist is usually selected. Local infiltration is satisfactory even in cases of general anesthesia, since infiltration helps diminish arterial spasm.

The artery is exposed through a longitudinal incision just above the wrist and immobilized. A ligature is placed around the vessel. If a needle is used, a direct puncture is made into the artery. For prolonged infusions, a suitable cannula is inserted through a small incision and the artery is then ligated. The skin incision is closed until the cannula is withdrawn, using a compress to prevent bleeding. The artery usually recanalizes after the ligature is cut.

Complications

Intraarterial transfusion is attended by some difficulties, which may be decreased with practice and care.

The possibility of air embolism is augmented. Other complications include trauma to adjacent structures and hemorrhages from sectioned vessels unnoticed at the time of cannulization. Sometimes the radial trunk will go into spasm from trauma, slowing the infusion. Rupture and thrombosis of fine vessels are occasionally seen.

Acute Peptic Ulcer after Surgery

WILLIAM V. MC DONNELL, M.D.,
AND JOSEPH F. MC CLOSKEY, M.D.

Stress resulting from an operation may cause fatal ulceration of the gastric and duodenal mucosa. Similar lesions from other forms of stress, particularly severe burns or disorders of the central nervous system, are well known.

In reviewing 243 cases in which death occurred within two months of operation at Jefferson Medical College, Philadelphia, William V. McDonnell, M.D., and Joseph F. McCloskey, M.D., found acute peptic ulcers in 8, or 3.24%, not including lesions that apparently started preoperatively. Several ulcers resulted in lethal hemorrhage or perforation.

Erosion was apparently induced by such major procedures as pneumonectomy for removal of bronchogenic carcinoma, cholecystectomy, reduction of a fractured hip, and midthigh amputation of the leg for circulatory obstruction. Shock may have been a factor in 3 cases, roentgen therapy in 1, and infection in 3, since all caused additional stress. The influence of adrenal function was not investigated.

Acute peptic ulcers as a complication of surgery. Ann. Surg. 137:67-73, 1953.

A single row of interrupted silk sutures gives a distensible anastomosis, reducing the risk of stenosis.

Technic for Intestinal Anastomosis

EMILE HOLMAN, M.D., AND JOHN E. CONNOLLY, M.D.
Stanford University, San Francisco

THE ordinary gastroenterostomy or side-to-side anastomosis anywhere in the gastrointestinal tract can be made an aseptic procedure in which hemostasis is effected by cautery and not by a mucosal suture in a contaminated field.

A single row of interrupted silk sutures is used. This is less traumatic than two rows, therefore less productive of scar tissue and of circular contraction and stenosis at the site of anastomosis. The inturned flange usually straightens out during healing when only a single row is used, increasing the intraluminal diameter of the anastomosis.

When interrupted sutures are employed, emphasize Emile Holman, M.D., and John E. Connolly, M.D., an intact bit of intestinal wall is left between each suture. This normal wall, with no continuous suture and resulting fibrosis, yields to distention and prevents stenosis.

The Lembert single suture, which involves less tissue strangulation than the Halsted mattress suture, is utilized. The stitch should always include a small bite of the submucosa but not penetrate the lumen.

Side-to-side anastomosis—The 2 intestinal walls, whether the stomach and jejunum or segments of bowel, are brought into apposition by a posterior row of interrupted silk sutures placed 5 to 7 mm. apart and tied. Then an anterior row of interrupted presection sutures is used. These are not tied but held out of the line of anastomosis while the serosa and muscularis are incised with a scalpel along the length of the desired enterostomy. A straight hemostat is employed to spread the incised muscularis to expose the submucosa.

The submucosa, which contains the main blood vessels of the intestinal wall, is coagulated with a Bovie cautery along a strip 4 to 6 mm. wide over the full length of proposed incision. An incision is made through the coagulated area into both loops. The sutures are pulled taut and tied individually to complete the anastomosis.

End-to-end anastomosis—Stenosis is the most serious objection to end-to-end anastomosis. A common aseptic method is to approximate the ends of bowel on fine clamps.

The posterior serosal surfaces of the 2 blind ends of intestine are approximated with a continuous Parker-Kerr suture of 0 chromic catgut applied parallel to the clamps. The anterior serosal surfaces are

Technical improvements in intestinal anastomoses. Stanford M. Bull. 10:196-202, 1952.

approximated in a similar manner with a second continuous suture. Interrupted silk is applied around the entire circumference.

A great disadvantage of this method is the large persistent flange or cuff of tissue turned into the intestinal lumen. An effective way to reduce the size of the flange is to withdraw the 2 inner catgut sutures after these have served the purpose of permitting easy and accurate placement of the interrupted suture in an aseptic field.

In a study of dogs, both types of end-to-end intestinal anastomosis were done. In every animal, the inturned flange was greater, and the resulting lumen smaller, when the inner layer of catgut sutures was not removed. Histologic studies of the anastomosis showed healing to be equally rapid, but less fibrous reaction occurred when the inner row of catgut was removed.

To avoid stenosis in an end-to-end anastomosis, a side-to-side procedure is sometimes used in the small and large bowel. The disadvantages of side-to-side anastomosis are: [1] enlargement by stasis of the blind end of the proximal intestine, causing anemia and [2] interference of normal propulsion of intestinal contents because of division of the circular muscle at the anastomosis.

Use of Artificial Esophagus

EDGAR F. BERMAN, M.D.

ALMOST two-thirds of an esophagus damaged by cancer or other lesion can be replaced with a flexible, specially constructed polyethylene tube. The operation is far shorter and safer than the usual procedure of bringing the stomach into the chest. In 30 cases summarized by Edgar F. Berman, M.D., of Johns Hopkins Hospital, Baltimore, surgical mortality was reduced to less than 10% from the rates of 15 to 40% with other methods.

A fibrous sheath lined with epithelium soon forms around the artificial segment, which can be withdrawn in a few months.

Plastic tubes are obtained in 6 lengths, from 4 to 9 in., with a diameter of ¾ in. Each end has a cuff with holes for sutures.

Ordinarily, the right side of the chest is opened through the fourth to seventh rib bed. Malignant growth is removed, and the esophagus is cut across, leaving 3 or 4 cm. of healthy tissue at either end. A margin at least 1 cm. wide should cover each plastic cuff.

A watertight anastomosis is made with a small curved needle and No. 0 atraumatic braided silk suture.

The patient is up on the third or fourth postoperative day and able to eat naturally by the tenth.

The plastic esophagus. J. Internat. Coll. Surgeons 18:695-699, 1952.

Recent analyses of cases of gallbladder disease show that many accepted concepts need reevaluation or modification.

Misconceptions about Gallbladder Disease

ROBERT S. SPARKMAN, M.D.
University of Texas, Dallas

TEN widely accepted theories about gallbladder disease are fallacious. Robert S. Sparkman, M.D., believes that the following traditional conceptions require modification:

1] *Cholelithiasis occurs predominantly in the obese multipara of middle age.*

Many investigators today report that the symptoms of gallbladder disease usually begin in early adulthood rather than in middle life, especially in women who have borne children. Gallstone colic often occurs in slender women less than 30 years of age shortly after parturition. In the late decades the relative incidence of gallbladder disease among men and women is approximately the same.

2] *In individuals harboring gallstones, dietary indiscretion is the principal factor in precipitation of attacks of colic.*

Although dietary factors are important in inducing attacks of colic, no such association can be demonstrated in many cases. Emotional disturbances may be an inciting influence, and the tendency for attacks to start during sleep in some patients indicates a postural relationship. In other cases, acute cholecystitis develops during an unrelated illness or after an operation or delivery.

3] *A single large gallstone is less dangerous than multiple small stones.*

Evidence is available that the mortality rate and incidence of major complications are higher with single stones than with multiple stones. Cholecystoenteric fistulas and gallstone ileus are more frequently associated with a large stone than with multiple stones.

4] *Stone in the common bile duct usually causes jaundice.*

Jaundice was not noted in about one-third of cases of proved common bile duct stones. Thus, a prediction cannot be made before operation as to whether exploration of the common bile duct will be required.

5] *Exploration of the common bile duct adds little to the morbidity with cholecystectomy.*

Almost without exception, analysis of gallbladder operations by different surgeons discloses a significant rise in mortality and morbidity when exploration of the common bile duct is added to simple cholecystectomy. The hazard of indiscriminate exploration of the common duct deserves emphasis. The best safeguard against com-

Common fallacies concerning gallbladder disease. Nebraska M. J. 37:379-382, 1952.

mon duct involvement is early operation.

6] *Acute cholecystitis is accompanied by fever and leukocytosis.*

Blood counts and temperatures are normal in over 20% of cases. Acute cholecystitis may even progress to gangrene without significant fever or leukocytosis.

7] *Perforation of the gallbladder is rare.*

Some authors claim that perforation occurs in 5 to 10% of individuals with acute cholecystitis treated conservatively.

8] *Quiescent gallstones may safely be left alone until causing trouble.*

Cancer of the gallbladder develops in approximately 5% of persons with gallstones. Apart from the hazard of cancer, the initial gallstone attack may be severe and complicated and come at an unfavorable time, as after an unrelated operation. The physician's decision to recommend nonoperative treatment subjects the patient to an over-all risk, which is disproportionate to the risk of cholecystectomy for the otherwise healthy.

9] *Patients may be safely relieved of attacks of gallstone colic by opiates, permitting a cholecystectomy to be done at an elective time.*

Caution is necessary; a patient so treated may assume that an operation not necessary during previous episodes is not necessary later and so postpone surgery until a new and more serious complication develops.

10] *Gallstones become less dangerous as the subjects reach more advanced ages.*

Operative mortality rates are distinctly higher for elderly patients.

A survey of surgical patients over 70 years old, ranked biliary tract disease next to repair of hernia in frequency and next to carcinoma of the stomach and colon in mortality. Complications are common and perforation occurs more often than with younger persons. Obviously, an elective cholecystectomy in middle age is less hazardous than an urgent cholecystectomy later.

¶ INTRAPERITONEAL ADHESIONS, usually caused by denudation of the serosa during surgery, may be reduced in number by a protective method of abdominal packing. Milton W. Durham, M.D., of Spokane interposes polyethylene film, a relatively chemically inert nonirritant, between all peritoneal surfaces and the customary gauze packs. To give additional protection the omentum is wrapped about all loops of small bowel before placement of the saline-moistened material. The commercially available synthetic is cut into 54- by 36-in. sheets and sterilized by immersion for thirty minutes in a solution of benzalkonium (Zephiran) chloride or an ammonium quaternary compound of rust-inhibiting germicide. Autoclaving is injurious to the plastic.

Arch. Surg. 65:854-855, 1952.

Nonoperative reduction of a sigmoid volvulus may be accomplished by use of a sigmoidoscope and rectal tube.

Reduction of Sigmoidal Volvulus

EDWARD HAMLIN, JR., M.D.
Harvard University, Boston

ACUTE torsion of the sigmoid colon can often be reduced by a rectal tube inserted through a sigmoidoscope. The procedure may be used as definitive therapy or preliminary to laparotomy for resection.

The incidence of volvulus of the sigmoid in the United States is low and, since few surgeons acquire great experience treating the entity, methods of therapy vary widely.

Cecostomy is ineffective. The concomitant large bowel obstruction is relieved but the closed-loop obstruction persists. If detorsion is performed, the cecostomy is unnecessary, since obstruction has been relieved.

Simple detorsion by laparotomy is often a lifesaving measure. If a rectal tube is inserted before operation, the trapped air is rapidly released, usually affording easy closure of the abdominal wall. No satisfactory method of fixation of the redundant sigmoid to prevent recurrence has been devised. Since the volvulus tends to recur, resection of the excess sigmoid is advised in almost all cases.

Primary resection is apparently a reasonably safe procedure in the hands of a competent surgeon, but the operation is definitely facilitated and made safer if the bowel is deflated and well prepared, states Edward Hamlin, Jr., M.D. Detorsion and deflation by a sigmoidoscope and rectal tube may be done as preparation for surgery.

When the diagnosis of acute volvulus of the sigmoid is made or suspected from the history, physical examination, and roentgenographic study, sigmoidoscopic examination should be done. The procedure is done if possible with the patient in a knee-chest position, which gives the operator more ease and comfort. Moreover, the volvulus is able to untwist readily when the weight of the loop is dependent.

After the sigmoidoscope passes the rectal valves, narrowing of the lumen should be watched for and, unless barium has been used, the mucosal folds can be seen corkscrewing to the apex of the obstruction. Then, if gross blood does not appear, a soft, lubricated rectal tube, about the diameter of a finger, is passed through the sigmoidoscope and gently pushed against the twisted lumen. Usually almost no resistance is encountered and passage of the tube is instantly followed by a rapid and at times al-

Nonoperative reduction of acute volvulus of the sigmoid. New England J. Med. 247:835-837, 1952.

most explosive release of air and liquid feces. If resistance is great, further distention of the rectum with air may loosen the twist and allow easy passage of the tube.

The gut may immediately retwist, but another sigmoidoscopic examination is preferable to the possible hazard of leaving the rectal tube, a foreign body, in contact with partially devitalized bowel.

The procedure can be dangerous, since the tube may perforate a gangrenous portion of the sigmoid. With peritoneal irritation, rebound tenderness, greatly diminished peristalsis, or a silent abdomen, or when blood is seen through the sigmoidoscope, the safest treatment is immediate laparotomy without attempted intubation.

Of 11 patients with volvulus of the sigmoid, 3 were reduced by means of barium-enema examination and 8 by sigmoidoscope and rectal tube.

Tuberculous Chest Wall Sinuses

GODFREY L. GALE, M.D., AND FREDERICK G. KERGIN, M.D.

RADICAL excision followed by a course of streptomycin and para-aminosalicylic acid is effective therapy for tuberculous chest wall sinuses.

The sinuses usually arise from liquefying lymph nodes which become infected from the pleura. Once broken down, the sinuses may discharge for years unless the remains of the nodes and all diseased tissue are thoroughly excised.

The following points in technic are stressed by Godfrey L. Gale, M.D., and Frederick G. Kergin, M.D., of the Toronto Hospital for Tuberculosis, Weston, Ont.

- Intratracheal anesthesia should be given because of the likelihood of excising part of the pleura and opening the chest. Since blood loss is often heavy, a transfusion should be running.
- All diseased tissue must be removed—sternum, ribs, cartilage, caseating lymph nodes, even pleura and pericardium, if necessary. All exposed cartilage need not be excised so long as the diseased portion is completely removed and bare ends can be covered with perichondrium or a muscle flap.
- Dead space must be obliterated and the wound closed.
- Since secondary infection is usually present, an attempt should be made to eliminate the nontuberculous infection. Injection of Lipiodol often indicates the direction and extent of the sinuses. A three-month course of streptomycin in 1-gm. doses twice weekly, with 10 gm. of PAS daily, is instituted at operation.

Tuberculous chest wall sinuses. Am. Rev. Tuberc. 66:732-743, 1952.

Sterility, bleeding, and symptoms from adenomyosis in young women may be relieved by conservative surgery.

Hysteroplasty for Adenomyosis

LEONARD LEROY HYAMS, M.D.
Woman's Hospital, New York City

PRESERVATION of the reproductive function is important in young women with symptom-producing diffuse adenomyosis. If the disease fails to respond to palliative measures, conservative excision of the lesions may allow later pregnancies.

Diffuse adenomyosis is the result of proliferation of the uterine muscle from penetration by endometrial tissue. Grossly, the entity is readily recognized by the coarse white trabeculations enmeshing pink endometrial inclusions.

Every diagnostic and therapeutic measure which might contribute to a successful outcome should be used. The possibility of cancer must be investigated.

Dilatation and curettage will disclose and even correct some coexisting conditions and establish the depth and contour of the uterine cavity. If available, hysterography may be used to reveal the topography more clearly.

Hysteroplasty is not performed if the patient is past childbearing age or has any condition that alone would prevent pregnancy, such as tubal occlusion or nonfunctioning ovaries.



Leonard Leroy Hyams, M.D., describes use of hysteroplasty for 2 women, 22 and 26 years of age. Severe dysmenorrhea and menorrhagia were eliminated in both cases and 1 woman had a full-term child by cesarean section a year after the hysteroplasty. The procedure, which should be done soon after termination of a period when the uterus is least congested, is done as follows:

The pelvis is exposed by a low transverse abdominal incision. The uterus is elevated by a temporary suture at the fundus to permit inspection for endometriosis or other pathologic conditions. Palpation discloses the hypertrophied and firm involved areas.

A longitudinal incision is made in the middle of the posterior wall, and Ford T clamps are applied to the wound edges.

Adenomyosis: its conservative surgical treatment (hysteroplasty) in young women. New York State J. Med. 52:2778-2784, 1952.

The clamps include myometrium of the subserous layer, 1 cm. or more thick. This should provide sufficient normal tissue for subsequent uterine reconstruction.

The uterine wall is inspected for coarse white trabeculations. Such tissue is removed piece by piece, preserving as much surrounding normal tissue as possible. Biopsy and frozen section will confirm the diagnosis of any questionable tissue.

If the anterior wall is also involved, the incision is extended over the top of the uterus and down toward the bladder, displacing that organ if necessary.

After the adenomyosis is removed, the wound edges are trimmed with scissors.

Decision as to the amount of tissue excised depends upon the extent of uterine involvement. Allowance should be made for the contraction and thickening of the muscle fibers after release from compression by the adenomyosis. By approximating the wound edges with the T clamps, the amount of tension can be closely judged and the surplus tissue removed more precisely.

The uterine incision is closed with a series of sutures of chromic 0 catgut, starting at the lower angle of the incision (see illustration). Each suture is tied and held until the next is in place.

The employment of such sutures obviates the necessity for several layers of catgut and also provides excellent approximation and hemostasis. As the sutures are applied, further trimming may be necessary for better apposition.

To aid in preventing postoperative intestinal obstructions, the omentum may be interposed between the intestines and the posterior uterine wall. After surgery, a mild cathartic nightly, frequent changes in posture, and early ambulation increase peristalsis and decrease the possibility of obstruction.

Although it may be difficult to determine whether the adenomyosis has been removed in toto, the operation may still relieve symptoms.

The continuity between the healthy endometrium and the aberrant tissue is interrupted; the interference with the blood supply to the areas may cause regression.

¶ INOPERABLE LUNG CANCER may be recognized if biopsy is obtained just lateral to the tracheal carina when bronchoscopy reveals a suspicious lesion lower in the bronchial tree. If superficially normal tissue near the keel contains malignant cells, submucosal lymphatic spread has occurred, and no type of pneumonectomy will be curative. For gross tumor arising in a paracarinal site, Coleman B. Rabin, M.D., Irving J. Selikoff, M.D., and Rudolph Kramer, M.D., of Mount Sinai Hospital, New York City, conclude that the resection of the carina and the trachea may be a feasible procedure. *Arch. Surg. 65:822-830, 1952.*

In addition to bacteriostatic action, iproniazid exerts a beneficial effect on mesodermal tissues.

Iproniazid and Osseous Tuberculosis

DAVID M. BOSWORTH, M.D., HOWARD A. WRIGHT, M.D., AND J. WILLIAM FIELDING, M.D.

St. Luke's Hospital, New York City, and Sea View Hospital, Staten Island

EARLY reports of good results in treatment of bone and joint tuberculosis with iproniazid continue to be justified.

Therapy with 1-isonicotinyl-2-isopropylhydrazine is attended by reduction of temperature, relief of pain, and weight gain. Wound healing of mesodermal tissues is accelerated and capillary dilatation is common.

The clinical indication of the level of toxicity is the development of clonus. Ankle clonus, which may be elicited in early stages by asking the patient to flex the toes, may be used as a guide to dosage.

Dosage—Initially, to establish a satisfactory bacteriostatic level, a dose of 4 mg. per kilogram of body weight is advised by David M. Bosworth, M.D., Howard A. Wright, M.D., and J. William Fielding, M.D. If clonus develops, the dose is reduced to 2 mg. per kilogram or lower, then increased gradually from day to day until clonus reappears, then reduced so that hypertonic reflexes may persist, but without clonus.

Results—Patients with bone and joint involvement had good results.

Sinuses with tuberculosis and mixed infection of long duration may close in one to two weeks of treatment. Repair of sinuses includes active formation of granulation tissue, lining of abscess cavities, and eventual adhesion of cavity walls on contact; the amount of discharge always decreases. Many sinuses which heal and remain healed, reopen and produce spotting on two or three occasions a few days before final closure.

Pain is universally relieved so that narcotics previously used are discarded within a week or ten days.

Patients who, according to previous concepts, would have needed operations may progress well without surgery and operation is possible in cases considered too risky before. In 8 cases, patients fully under the influence of iproniazid medication have been operated upon with Sodium Pentothal or cyclopropane as anesthetic agents. No complication referable to either surgery or anesthesia was noted.

Roentgen changes—Despite laboratory findings indicating normal bone metabolism, roentgenographic evidence of generalized osseous decalcification after nine to twelve

The treatment of bone and joint tuberculosis; effect of 1-isonicotinyl-2-isopropylhydrazine. J. Bone & Joint Surg. 34-A:761-771, 810, 1952.

weeks of medication appears too regularly to be disregarded.

The changes may be caused by increased bone vascularity, fat substitution, fibrosis, or masking of bone structure by weight gain. The cortex seems thin and atrophic. The cancellous structure also appears atrophic and less dense. The union of surgical ankyloses seems hastened.

Toxicity—Concentration of the drug in the cerebrospinal fluid and liver damage have been noted during iproniazid therapy.

Toxic effects on the central nervous system may produce dizziness, somnolence, tremor, hypertonic reflexes, euphoria, and clonus, which is probably the most significant of these symptoms.

Undesired effects on the autonomic nervous system may cause profuse sweating, urinary hesitancy, intractable constipation, and impotency in males. Dryness of the mouth and weakness in visual accommodation are common. Jaundice seems to be of the toxic rather than of the obstructive type.

Hyaluronidase for Hemophilic Hemarthrosis

W. R. MAC AUSLAND, JR., M.D., AND J. J. GARTLAND, M.D.

INJECTIONS of hyaluronidase hasten the absorption of blood in hemophilic cases of fresh hemorrhage into a joint and quickly restore free range of motion. The enzyme acts directly on the ground substance of the synovial fluid and membrane, allowing reabsorption of hemorrhage. With rapid return of synovial fluid, nutrition of the articular cartilage is assured and degeneration forestalled.

W. R. MacAusland, Jr., M.D., of Boston and J. J. Gartland, M.D., of Jefferson Medical College, Philadelphia, report prompt relief in 11 of 13 cases of acute hemophilic hemarthrosis treated at New York Orthopedic Hospital.

After confirming diagnosis, arrangements are made for prompt infusion of plasma or fresh blood in an attempt to reduce clotting time and arrest concurrent hemorrhage. The patient is then sedated and the joint aspirated; only a few cubic centimeters are removed.

With the needle in place, a mixture of 1,000 turbidity-reducing units of hyaluronidase in 4 cc. of 1% procaine is instilled. The amount injected should not exceed the volume of fluid aspirated. On withdrawal of the needle, a dry sterile dressing is held against the puncture site to prevent oozing and an Ace bandage is applied.

After twenty-four hours, the bandage is removed and the joint observed for residual distention and pain. If symptoms remain, treatment is repeated.

The treatment of acute hemophilic hemarthrosis. New England J. Med. 247:755-758, 1952.

Experience with war casualties provides basis for evaluating lower extremity amputation technics.

Lower Extremity Amputation

AUGUST W. SPITTLER, M.D.
Walter Reed Army Hospital, Washington, D.C.

JOHN J. BRENNAN, M.D.
Tripler Army Hospital, Honolulu

MUCH experience in amputation technic has been gained from the Korean conflict, particularly in casualties resulting from cold injury or frostbite.

Early amputation is inadvisable in such cases, explain August W. Spittler, M.D., and John J. Brennan, M.D. The limb is edematous for some time after cold injury and early amputation may slow the healing process. Moreover, too high a level may be selected.

Foot Amputation

Frostbite or cold injury is a common antecedent to foot or toe amputation. Early treatment requires leg elevation with as much movement as possible.

Antibiotics are given to control infection. Dressings are usually unnecessary; ointments are never applied. If hard dry eschars of superficial gangrene are removed for eight to twelve or more weeks, to prevent constricting bands forming, amputation is often unnecessary.

Enzymatic debridement with local applications of streptokinase and streptodornase or trypsin is useful conservative management. Duration of infection, edema, and pain is often shortened permitting earlier definitive surgical treatment.

The digits are removed only when hopelessly gangrenous and when a definite line of demarcation has formed. The amputation should be of the open or so-called guillotine type, and traction is applied to draw the remaining skin down over the bone end.

Plastic revision is done later, with bone removal if needed. This is used only when the stump is dry or sealed over with skin or scar formation. Viable digits are saved even though only one remains, since this digit will assist in holding a toe pad or aid in balance. Severely deformed toes can often be treated by partial or total excision of the proximal phalanx so that amputation is avoided.

Syme Amputation

The Syme is an excellent amputation. The stump functions better than a short partial foot.

The operation is done in two stages in all infected cases and is used even with large gangrenous areas over the posterior heel surface

Lower extremity amputations. South. M. J. 45:942-947, 1952.

from cold injury or from decubitus (Fig. 1).

In the first stage, a U-shaped incision is made from the tip of each



Fig. 1. Frostbite case suitable for Syme amputation.

malleolus across the plantar surface of the foot in the midmetatarsal area, with another U-shaped incision from the same point across the top of the foot (Fig. 2). The flaps are longer than those made in the one-stage procedure to allow a loose closure. Handling the skin carefully, the talus is disarticulated and foot bones are shelled out.

The tendons are not pulled down and severed high as is customarily done. The malleoli are left intact and, after removal of all infected tissues, the skin margins are approximated loosely and a drain is placed. A firm dressing is applied.

After complete healing, the suture line is reopened. The malleoli are removed and the heel pad is fitted well over both bone ends.

Guillotine Amputation

Open or guillotine type of amputations do well for traumatic or infected wounds. Closed amputation often produces fulminating infections and osteitis.

Skin, fascia, muscle, and bone are incised at levels of retraction. Skin traction through a stockinette to only the distal 3 to 4 in. of the stump end should be applied at once and continued. Dressings are placed outside the stockinette. Revision is not done until all granulations are covered and dry.

Below-Knee Amputations

The ideal site for below-knee amputation is from 5½ to 6½ in. beneath the tibial plateau. Greater lengths cause circulatory disturbances.

A posterior skin flap produces the best closure (Fig. 3). About 7 in. of posterior skin below the bone end is required. The anterior tibial

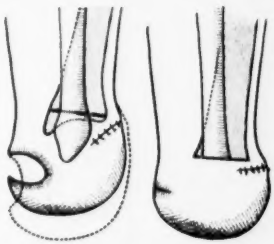


Fig. 2. Syme amputation. First-stage closure *(at left)*, calcaneal ulcer left open. Second stage *(at right)*, showing ulcer healed and malleoli removed.

surface should be covered at least 2 to 2½ in. above the bone end. The minimum skin length required is the anteroposterior diameter of the leg at the amputation site plus 2 in.

Blood supply of the posterior flap is maintained and muscles are treated as usual to make a well-shaped stump. The myofascial layer must be well fixed to the anterior

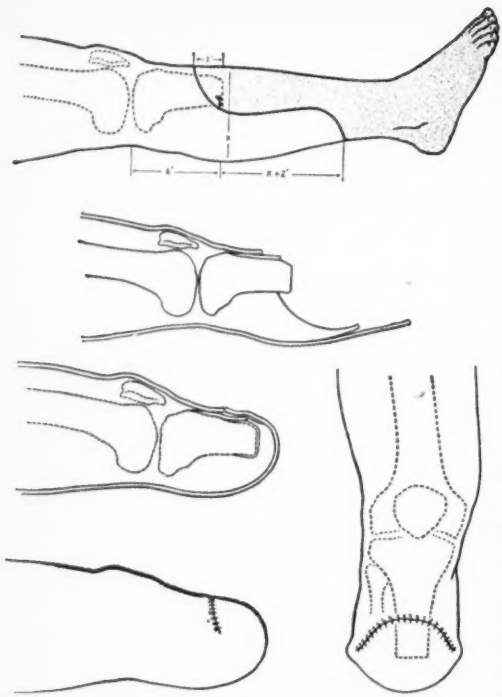


Fig. 3. Below-knee amputation, showing length of skin flap, closure of myofascial flap, and skin closure. Note dog ears which are not trimmed.

fascia to prevent downward retraction of the suture line. The dogears are not trimmed because this narrows the base of the posterior flap and decreases the blood supply.

Knee Disarticulation

When a below-the-knee stump cannot be obtained, an infected leg should be disarticulated at the knee. The disarticulation is performed cleanly, sparing all skin possible.

Skin traction is used only when required by tightness of closure. Antibiotics are employed.

Above-Knee Amputations

An end-bearing stump, preferably that provided by the Gritti-Stokes amputation, should be used, if possible, for amputation above the knee. If circulation is poor, the procedure is done without a tourniquet, allowing for generous posterior and anterior flaps. Skin closure must be without tension.

For prosthesis, above-knee amputees should be fitted with a suction socket prosthesis whenever possible.

All below-knee amputees should be first fitted with a gluteal bearing cuff.

¶ CUTANEOUS PENICILLIN REACTIONS resistant to routine therapy respond immediately to small amounts of cortisone. In patients with varied manifestations of hypersensitivity, Jeff Davis, M.D., of Cornell University, New York City, found symptomatic relief and clinical improvement evident within five to eight hours after intramuscular injection of 50 mg. of the hormone. Complete resolution of lesions may be effected within twenty-four to forty-eight hours. Total dosage did not exceed 100 mg.

New York State J. Med. 53:69-71, 1953.

Progressive hoarseness always warrants investigation as a possible indication of cancer.

Diagnosis of Laryngeal Cancer

LOUIS H. CLERF, M.D., F. JOHNSON PUTNEY, M.D., AND JOHN J. O'KEEFE, M.D.
Jefferson Medical College, Philadelphia

THE possibility of cancer of the larynx should be considered whenever a patient, particularly an adult man, is hoarse for more than four to six weeks.

Carcinoma of the larynx occurs most frequently after the age of 40 years and is 9 times as frequent in men as in women, state Louis H. Clerf, M.D., F. Johnson Putney, M.D., and John J. O'Keefe, M.D.

About two-thirds of the neoplasms begin on a vocal cord, with symptoms of huskiness or hoarseness. Pain rarely occurs until the cancerous growth is far advanced.

A lump or distress in the throat may be the first indication. Voice disturbances are often attributed to smoking, excessive talking, or chronic laryngitis, but the most serious possibilities must be eliminated by all appropriate means before the symptoms are concluded to be caused by a lesser entity.

The interior of the larynx should be visualized by mirror or direct laryngoscopic examination. A considerable part of the exterior can be palpated. When anatomic deviations of the epiglottis or pharyngeal irritability from smoking interferes with satisfactory examination, a local anesthetic can be sprayed into the pharynx to alleviate the reflexes.

When carcinoma is suspected, biopsy should be made of any laryngeal lesion seen. Pulmonary tuberculosis or a positive Wassermann reaction should not be accepted as sufficient evidence to explain the lesion, since tuberculosis or syphilis not uncommonly coexists with carcinoma. The examination of the larynx must be evaluated independently, irrespective of other findings.

Keratosis of a vocal cord often ultimately develops into carcinoma. A nodular appearance or a surrounding inflammatory zone should be regarded with suspicion, and repeated biopsies done.

Single papillomas may undergo malignant changes. The entire lesion must be removed and the portion attached to the vocal cord examined histologically before the possibility of cancer can be eliminated.

The biopsy specimen must be taken from a representative portion of the neoplasm. The dangers of a properly performed biopsy are negligible. Hemorrhage is unlikely since the laryngeal vessels are deep-

The diagnosis of carcinoma of the larynx. S. Clin. North America 32:1637-1643, 1952.

ly placed laterally. Infection is not apt to occur since the biopsy specimen is removed from the surface of the lesion.

The hazard of dissemination of malignancy from incising a carcinoma of the larynx is not great if a cutting rather than a crushing forceps is used.

If the lesion is malignant, definitive treatment should be started as soon as possible. Grading of the carcinoma to determine the degree of malignancy may help determine the therapy. The exact location and extent of the neoplasm are most important.

The lesion is usually about one-third larger than the size revealed by mirror laryngoscopic study. Information should be obtained, by direct examination if necessary, as to whether the carcinoma extends to the anterior commissure and whether the lesion crosses over the midline and involves the anterior extremity of the opposite vocal cord.

Visualization is difficult in the subglottic larynx, the posterior surface of the epiglottis, or the glottic chink. If stenosis prevents easy introduction of an endoscopic tube, roentgen study, preferably by laminagrams, aids in ascertaining the extent of the subglottic involvement.

With carcinoma in the anterior larynx, palpation of the neck may reveal a swelling or tenderness over the thyroid cartilage, suggesting chondritis with neoplastic invasion. With a known laryngeal cancer, any lymphadenopathy of the neck should be regarded as metastatic involvement.

Though metastasis ordinarily occurs late in cordal lesions, the size of the primary growth cannot be accepted as a criterion. Vocal cord neoplasms usually metastasize first to nodes overlying the trachea and cricothyroid membrane. Epiglottic carcinoma commonly invades the preepiglottic space and metastasizes to the submaxillary, submental, and superior deep cervical nodes. Subglottic lesions metastasize to the inferior deep cervical nodes, often the infraomohyoid nodes.

¶ CLEFT LIP AND PALATE are causally unrelated to actual or discrepant parental ages. From comparative analysis of 282 consecutive cases at the Straith Clinic, Detroit, representing a sampling of 283,000 births, and birth records of the Detroit Health Department, William G. McEvitt, M.D., finds an increasing number of offspring among older parents but no augmentation of the percentage occurrence of congenital malformation. More probably the basis is hereditary and the abnormal genes permeate the population as a whole. Until manifestation of the defect the chance of occurrence is about 1 in 750, but with appearance of the deformity in the strain the odds become lower. Disease, mechanical factors, and dietary deficiencies are improbable causes.

Plast. & Reconstruct. Surg. 10:77-82, 1952.

Vasoconstrictors to lower the pH toward a slightly acid level are desirable in acute rhinitis and similar conditions.

Rational Nasal Medication

NOAH D. FABRICANT, M.D.
University of Illinois, Chicago

THE use of nasal vasoconstrictors by the general public in treating the common cold and allergic rhinitis is steadily increasing. Although physicians realize that such therapy is not curative and may be dangerous, the temporary relief provided to distraught patients cannot be ignored.

Physicians, therefore, have the duty of prescribing physiologic nasal medications rather than letting the patient be exposed to the hazards of over-the-counter purchases and self-medication.

In determining what comprises rational physiologic nasal medication, Noah D. Fabricant, M.D., emphasizes the importance of the *p*H factor.

The *p*H of nasal secretion in healthy adult nasal passages is usually from approximately 5.5 to 6.5. For infants and young children, the values are from 5 to 6.7. With acute rhinitis, acute sinusitis, and active phases of allergic rhinitis, the *p*H of nasal secretion is on the alkaline side and gradually returns to the normal range as the attack subsides.

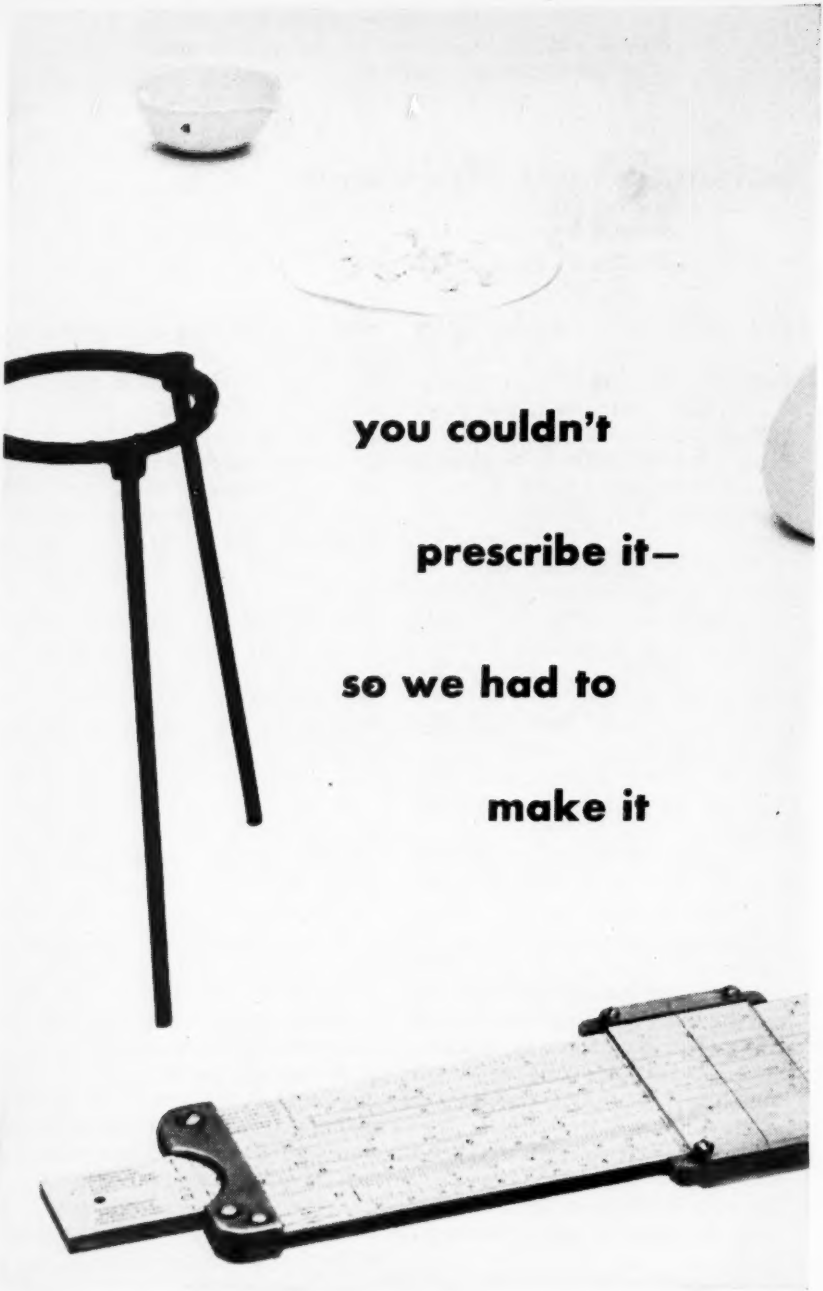
Patients whose nasal secretions have a *p*H value of 6.5 or lower do not have bacteria in nasal cultures whereas those with an elevation to the alkaline side usually do. Normally acid nasal mucosa therefore may be said to provide a purposeful acid barrier against infection. Also, in allergic states, when the *p*H of the nasal mucosa is on the acid side, eosinophils almost completely disappear. But if the *p*H alters to the alkaline side, the eosinophils return.

Lysozyme, an imperfectly understood factor found in nasal secretions, has the property of dissolving bacteria. Lysozyme activity is best at an acid *p*H, being sharply reduced in the alkaline nasal secretions accompanying common colds.

A rational nasal medication, then, is one which tends to lower the abnormally high *p*H of the diseased nasal mucosa. Obviously a nasal vasoconstrictor with an unusually high alkaline *p*H value will not only be ineffective in lowering the *p*H, but will also postpone a return to normal as the attack subsides. On the other hand, medicaments with a *p*H too far to the acid side may produce inflammatory and suppurative changes. Great care, therefore, must be exercised in the choice and use of such preparations.

(Continued on page 122)

Effect of progressively buffered solution of ephedrine on nasal mucosa. J.A.M.A. 151:21-25, 1953.

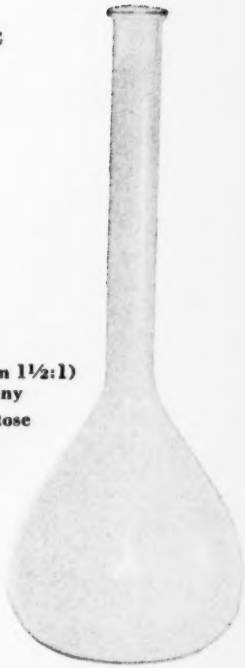

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Emotional Factors in Poliomyelitis

CLIFFORD G. GRULEE, JR., M.D.

THE psychologic impact of poliomyelitis is great. The disease causes community hysteria and anxiety on the part of the patient and family.

When respiratory function is impaired, orientation of the patient and family about the future is particularly important. The proper beginning is made by the family physician. Community facilities, hospital policies, and financial problems should be discussed.

Patients with bulbar, bulbospinal, or cervical involvement are especially dependent. The respirator patient must be treated in a friendly, efficient, and confident manner. Management should fit emotional needs and individual preferences.

When several physicians are caring for a patient, one, preferably the internist or pediatrician, should assume responsibility for direction.

A full, candid answer to the patient's questions may be unnecessarily brutal, yet too evasive a reply sometimes destroys confidence. Deception may be necessary, temporarily, but can turn out to be more traumatic than the truth. Describing the respirator as a "short-term test" or attempting to decrease respirator pressure without the patient's knowledge may result in loss of faith.

Labeling the respiratory cripple's complaints as neurotic is dangerous. Restlessness, increasing anxiety, irritability, and flushing may be symptoms of altered respiratory physiology.

Flexibility in visiting regulations may prevent adverse psychologic factors. Visitors who upset the patient should be tactfully discouraged. Personality clashes may be avoided by shifts of personnel. Religious needs must be recognized.

Clifford G. Grulee, Jr., M.D., of Tulane University, New Orleans, recommends grouping of respirator patients to promote companionship and competition and aid social rehabilitation. Excessive fatigue or long periods of inactivity should be avoided.

Some emotional problems associated with respiratory insufficiency in poliomyelitis. Pediatrics 10:444-449, 1952.



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Discharge and malodor of bacterial cervicitis and vaginitis can be markedly decreased by Furacin Vaginal Suppositories.

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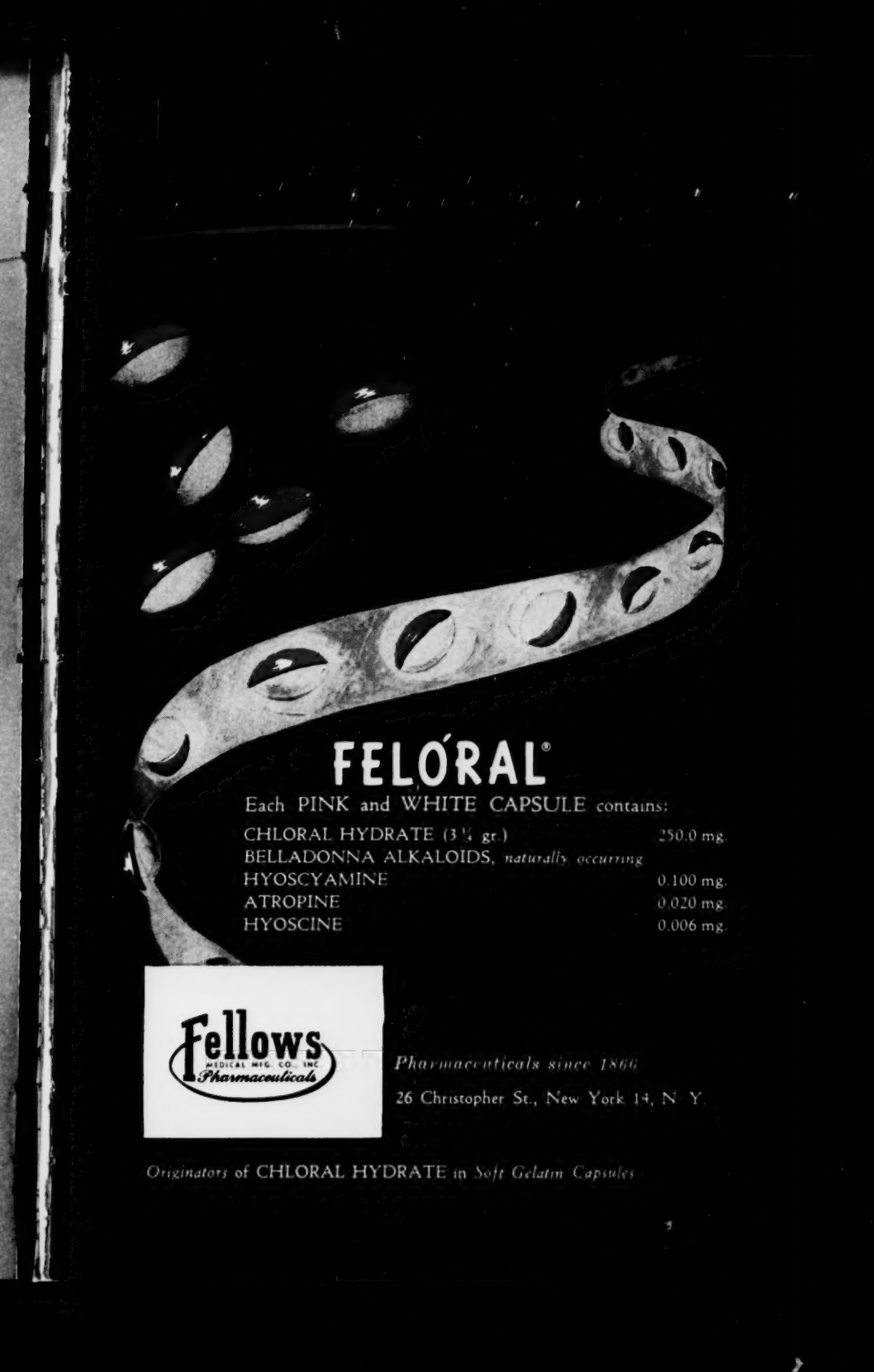
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A psychosomatic approach to therapy may be needed in obscure cases of subacromial bursitis.

Life Stress and Painful Stiff Shoulder

THOMAS H. LORENZ, M.D., AND MARC J. MUSSER, M.D.
University of Wisconsin, Madison

PROLONGED muscular tension brought on by emotional strain may be responsible for chronic disabling pain in and around the shoulder.

When the cause of subacromial bursitis or similar condition is obscure, understanding of the mental background may assist both diagnosis and treatment.

Thomas H. Lorenz, M.D., and Marc J. Musser, M.D., found 60 cases of painful shoulder related to stress among 300 medical patients referred for psychosomatic disorders. Localized discomfort was mentioned spontaneously or in reply to direct questions.

Each subject had a thorough physical and laboratory examination, including urinalysis, blood count, sedimentation rate, serologic reaction, blood chemistry, and chest roentgenogram. Organic factors were sought by radiograms of shoulder and spine, spinal fluid examination, oil myelograms, and electrocardiograms.

Many of the group were seen by specialists in orthopedics, neurology, neurosurgery, or physical medicine. Events of life were reviewed.

In about two-thirds of cases, pain in the chest, shoulder, or neck was the chief symptom and in the remainder was secondary to nervousness, headache, fatigue, muscular aching, or rheumatism.

Shoulder pain caused by the stress and strain of life is commonly associated with most of the following complaints, some of which always appear months or years earlier:

Headache from muscle tension or, occasionally, from migraine; *chronic nose trouble*, such as colds and vasomotor or allergic rhinitis; *nervousness* apparent as anxiety, restlessness, irritability, insomnia, and the like; *weakness*, fatigue, and morning asthenia; *dizzy spells; gastrointestinal disturbances*, including flatulence, heartburn, nausea, anorexia, and constipation; *imagined heart disease*, with dyspnea on effort, palpitation, tachycardia, or angina-like pain; and *muscular discomfort*, felt as migratory aches, nocturnal cramps, or restless legs.

Either or both shoulders may be involved. When the arm is flexed behind the back, great discomfort or even severe pain may be produced by palpating the greater tubercle of the humerus or adjacent pectoralis muscles. The upper trapezius and latissimus dorsi may be tender.

The patient usually holds shoul-

Life stress, emotions and painful stiff shoulder. Ann. Int. Med. 37:1232-1244, 1952.



ROUTINE THERAPY FOR INTERNAL HEMORRHOIDS

For the vast majority of cases of internal hemorrhoids requiring conservative treatment, the employment of RECTAL MEDICONE appears clearly indicated. The enormous prescription demand which this product enjoys, furnishes definite evidence of its value in this condition—particularly so when prompt symptomatic relief is vital for the comfort and well-being of the patient.

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der girdle up on the affected side, with the arm held close to the chest, and motion may be limited. The diagnosis may be subacromial bursitis, tenonitis of the musculotendinous cuff of the humerus, or contracted shoulder.

Roentgenograms will occasionally show calcification of a tendon or bursa, and a rare electrocardiogram may be abnormal, but other tests are noncontributory.

Affected individuals are typically aggressive yet dependent, obsessive-compulsive, hyperkinetic, and resentful. Most are serious, restrained, and overconscientious, with rigid convictions and habits. Difficult tasks are undertaken with vigor.

In the face of great odds, particularly lack of support and reassurance from others, frustration and discouragement are frequent. Strength may be taxed by heavy new responsibilities or loss of a husband, wife, or friend, but efforts are increased and in most cases doggedly continued in spite of growing anxiety or despair.

The shoulder joint is a vulnerable structure, poorly designed for serving as a major tool in the struggle for life. Steady muscular tension, whether caused by emotion or other factor, interferes with voluntary acts. The slight daily wear and tear of opposing forces may finally cause enough injury to produce crippling pain.

Although symptoms often improve during recreation or freedom from onerous duties, the sufferer is seldom aware of emotional factors in poor health. When he learns that the source of discomfort is outside the thorax, his worries are greatly relieved, especially fear of fatal heart disease.

The usual medical, orthopedic, and physiotherapeutic measures for painful stiff shoulder should be employed. In addition, personal situations causing stress should be dealt with understandingly and psychotherapy given.

¶EMOTIONALLY INDUCED EOSINOPENIA may be so great as to invalidate cell counts taken in various conditions of stress. F. Dreyfuss, M.D., and S. Feldman of the Hebrew University, Jerusalem, believe that this type of leukocytic deficiency is a psychosomatic phenomenon illustrating the influence of the cerebral cortex on the hypothalamic-pituitary-adrenal system and may account for the extreme variability of normal values. An average drop of 44% in eosinophil determinations was noted for 48 medical students immediately before final oral examinations compared with the counts obtained twenty-four hours later. The computation of one pupil with allergic rhinitis rose from a preexaminational figure of 803 to 1,771 afterward. Tension caused a difference of 42% between observations on admission and preoperatively for 10 women admitted for diagnostic uterine curettage.

Acta med. Scandinav. 144:107-113, 1952.

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Riboflavin	1 mg.
Niacinamide	10 mg.
Pyridoxine hydrochloride	0.2 mg.
Panthenol	1 mg.
Choline	50 mg.
Inositol	20 mg.
Vitamin B_{12} (crystalline)	0.33 mcg.
Folic acid	0.2 mg.
Biotin	0.02 mg.
Para-aminobenzoic acid	0.5 mg.
Soluble liver fraction N.F.	300 mg.
Ferrous sulfate (to supply 7.5 mg. iron)	37.3 mg.



Each capsule supplies:

Thiamine hydrochloride	1 mg.
Riboflavin	1 mg.
Niacinamide	10 mg.
Pyridoxine hydrochloride	0.2 mg.
Calcium pantothenate	1.2 mg.
Choline	50 mg.
Inositol	20 mg.
Vitamin B_{12} (crystalline)	0.33 mcg.
Folic acid	0.2 mg.
Biotin	0.02 mg.
Para-aminobenzoic acid	0.5 mg.
Desiccated liver N.F.	300 mg.
Ferrous sulfate (to supply 7.5 mg. iron)	25.5 mg.

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POLY-VI-SOL® Each 0.6 cc. supplies	5000 units	1000 units	50 mg.	1 mg.	0.8 mg.	5 mg.
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Spontaneous descent may be awaited with undescended testis if hormone response occurs.

Undescended Testis

JOSEPH H. KIEFER, M.D.
University of Illinois, Chicago

TENDENCY to malignant degeneration and a high incidence of inguinal hernia accompany the testicle which fails to descend. Orchiopexy should be done when hormonal stimulation is unsuccessful.

Incomplete descent of the testis is found at birth in approximately a third of premature infant boys, but in fewer born at full term, since descent is usually completed in the last fetal month.

A mechanical interference, such as adhesions or narrowing of the normal path of descent, is the common cause, states Joseph H. Kiefer, M.D. Endocrine abnormality is an etiologic factor in only a few cases. Most cryptorchid testes are outside the external ring or in the inguinal canal.

Normal spermatogenesis cannot occur at body temperature, hence the undescended testis is sterile. Interstitial cells develop, however, and androgen output is not seriously impaired. A few undescended testes are congenitally hypoplastic or defective and never develop properly regardless of position.

Inguinal hernia is common because the processus vaginalis is nearly always patent.

Subjective symptoms are usually absent, but the diagnosis can be made at birth or shortly thereafter. Periodic examinations should be made to locate the site of arrest. The testis can frequently be brought to an examining finger in the external ring by stroking down over the inguinal canal. Straining by the patient will aid the examination.

When the testis can be felt outside the external ring and can be drawn down into the scrotum, treatment is not necessary, since the testis is migratory or retractile, not truly undescended. An obvious hernia requires surgical correction in any case.

Endocrine dosage is started at 5 to 7 years of age, more as a diagnostic procedure than as actual therapy. A total of approximately 5,000 units of anterior pituitary-like gonadotropic hormone is given in divided doses, 1 or 2 weekly injections of 500 units each. If no benefit is noted, but therapy is well tolerated, a second course may be given. More than this may result in precocious sexual development. If such evidence appears with lesser amounts of the hormone, treatment should be stopped.

If the testis descends into the scrotum, complete descent can be expected at puberty, although re-

(Continued on page 132)

Undescended testis: types and management. Ohio State M. J. 48:1105-1107, 1952.

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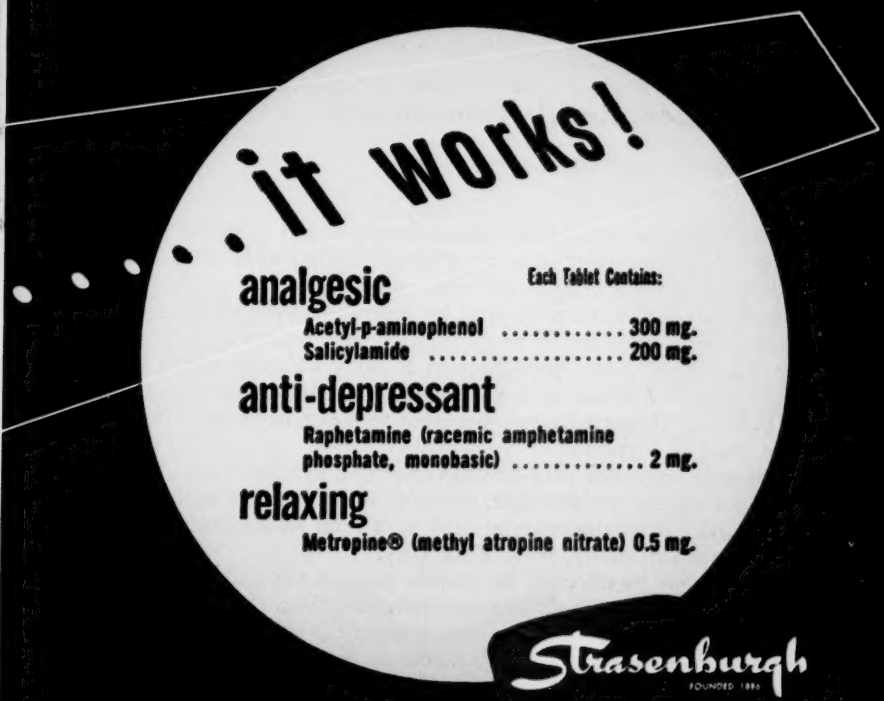
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traction may occur after therapy is discontinued. Orchiopexy should be done if the hormonal stimulation produces no response.

The testis, with nutrient vessels and the vas deferens, is thoroughly freed from any adhesions and brought down into a bed deep in the scrotum. Extreme care must be taken to avoid damaging the blood supply. The processus vaginalis is removed. The testis is then attached to the fascia of the inner thigh. After several months, retraction will probably not occur and the attachment can be separated using local anesthesia.

When the length of the spermatic vessels will not permit placement of the testis in the scrotum, removal is preferable if the other testis is normal. Two undescended testes, neither of which can be brought down, should be left outside the inguinal canal. Trauma is less likely and examination is possible so that tumor growth is immediately apparent. Tumors occur 20 to 50 times as frequently in the cryptorchid as in the normal testis.

Isoniazid for Renal Tuberculosis

JOHN K. LATTIMER, M.D.

VESICAL lesions of renal tuberculosis improve and tubercle bacilli disappear from the urine of some patients treated with isonicotinic acid hydrazide. The drug is not nephrotoxic.

Dosage can be best be prescribed by determining the sensitivity of the patient's tubercle bacilli to the drug before treatment is begun. Daily amounts of 3 mg. per kilogram of body weight, divided in 2 doses, give blood levels of 1 to 2 mg. per milliliter, adequate for most patients. If pretreatment resistance to 5 mg. or more is found, dosage must be increased.

Since drug resistance may develop after two to eight weeks, intermittent dosage may be desirable, probably in conjunction with streptomycin and para-aminosalicylic acid, says John K. Lattimer, M.D., of Columbia University, New York City.

Isoniazid may be effective for uremic patients with advanced kidney tuberculosis, but blood level determinations in such cases are absolutely necessary. The drug accumulates in the blood when kidney excretion is impaired and, at high blood concentrations, without premonitory increase in symptoms, may become a convulsant. Isoniazid cannot be given to epileptic patients.

Nephrectomy is still the best treatment for unilateral fibrocaseous renal tuberculosis, because large fibrous and necrotic lesions do not seem to yield to streptomycin, para-aminosalicylic acid, or isoniazid.

Caution necessary in the treatment of renal tuberculosis with isoniazid. J.A.M.A. 150:981-982, 1952.

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CENASERT* combines antibacterial, fungicidal, and other agents for quick, long-lasting control of infection and maintenance of the normal vaginal environment. Dainty to handle and easily inserted high in the vaginal vault, CENASERT tablets are readily dissolved and dispersed without leakage, staining, or odor ...no risk of embarrassment in use.

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9-Aminoacridine Hydrochloride	2.0 mg.
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Pneumography is useful and safe if pressure used is low and patient is kept under close observation.

Extraperitoneal Pneumograms

DONALD R. SMITH, M.D., HOWARD L. STEINBACH, M.D., RICHARDS P. LYON, M.D., AND PAUL B. STRATTE, M.D.
University of California, San Francisco

INSUFFLATION of oxygen into the presacral-retrorectal zone will outline the structures and abnormalities of the extraperitoneal space when roentgenograms are made. The procedure is not dangerous if safeguards are taken against venous gas embolism.

Donald R. Smith, M.D., Howard L. Steinbach, M.D., Richards P. Lyon, M.D., and Paul B. Stratte, M.D., who have used the procedure for nearly 100 patients without an instance of embolism, place the patient on the right side, inject 1% procaine into the skin about 1 to 2 cm. below the tip of the coccyx in the midline, and apply anesthetic ointment to the anus.

A short No. 19 spinal needle is inserted through the procaine wheal and passed just anterior to the tip of the coccyx. The index finger of the left hand is then placed in the anus to allow safe and accurate advancement of the needle along the sacrococcygeum. The tip of the needle should finally rest about 1 cm. superior to the tip of the coccyx. The needle is then aspirated to be sure the point is not in a vessel.

The apparatus for gas delivery is attached to the spinal needle by sterile tubing containing a cotton filter. Oxygen is used for insufflation because the solubility is such that good films may be made up to four hours after injection.

One-half the total amount of gas to be used is introduced with the patient on one side. After shifting to the other side, the remainder is allowed to run in. The gas always seeks the highest level. If but one side is to be studied, only that side should be elevated.

The extraperitoneal tissues have a positive pressure of about 10 cm. of water, so pressures a little higher are needed for gas to spread into the tissues. When pressures above 20 cm. are necessary, the needle is probably in the fascia propria of the rectum or in fibrous tissue and must be changed.

Approximately 15 cc. of oxygen per kilogram is adequate for bilateral retroperitoneal emphysema. Unilateral insufflation requires half that amount.

When introduced, the gas surrounds the rectum and bladder. In the female, the oxygen invades the parametrium around the uterus, tubes, and ovaries. The gas then dissects upward along the psoas muscles and fills both the perineph-

Extraperitoneal pneumography. J. Urol. 68:953-959, 1952.



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The torment of hemorrhoids disrupts normal mental processes. Reason, reflection, decision are difficult.

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Prompt, Prolonged Relief Without Narcotics or Anesthetics

ric and paranephric spaces, outlining the kidneys, adrenals, liver, and spleen.

After insufflation, films are made in the prone position so that the oxygen will not spread into the anterior abdominal wall and obscure the detail of the retroperitoneum. After injection for unilateral pneumography, the prone position is used with the head elevated 15 degrees, enabling the gas to surround the retroperitoneal organs in the subdiaphragmatic region.

If immediate films are not satisfactory, the position can be altered to facilitate further gas migration. Films can be repeated in one or two hours. Stereoscopic anteroposterior and lateral films are routine and tomograms will aid in the elimination of shadows caused by gas in the gastrointestinal tract.

Signs of embolism include a mill-wheel cardiac murmur, cyanosis, increased venous pressure, fall in blood pressure, rapid thready pulse, and syncope. If such signs develop, placing the patient immediately in the left lateral decubitus position should prevent a fatal outcome.

The cause of death with venous air embolism is a mechanical blockage of the outflow tracts from the right ventricle by air. The blockage does not occur if the subject is on the left side, since gas can then leave the heart.

Environment and Multiple Sclerosis

GABRIEL STEINER, M.D.

THE agent responsible for multiple sclerosis probably has an environmental, extrahuman reservoir. Man-to-man transfer and transovarian passage do not occur.

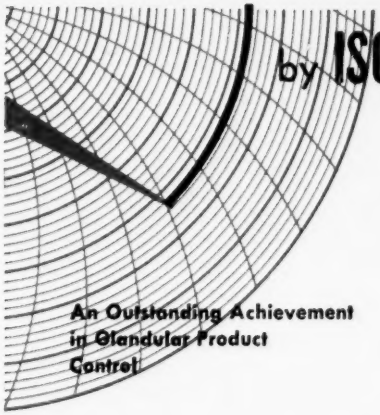
A survey made in Michigan by Gabriel Steiner, M.D., of Wayne University, Detroit, shows that in places where multiple sclerosis is common, more than 1 case often occurs in one household. Among the 500 cases studied were 14 families, sharing the same household, with more than 1 case. Household cases were found in 3 rural communities in close vicinity as well as in several cities which had high incidences of the disease.

In the household cases, females outnumbered the males 20 to 8 and infection of 2 siblings was 2.5 times more common than paternal-filial combinations. Sisters and brothers are apparently more exposed to the source of multiple sclerosis than are parents.

Dogs or cats may be suspected of being reservoirs of the agent. However, the popularity of household pets in the general population renders a statistical analysis of this factor unfeasible. Insect vectors as links in the chain of transmission may be significant.

Environmental studies in multiple sclerosis. Neurology 2:260-262, 1952.

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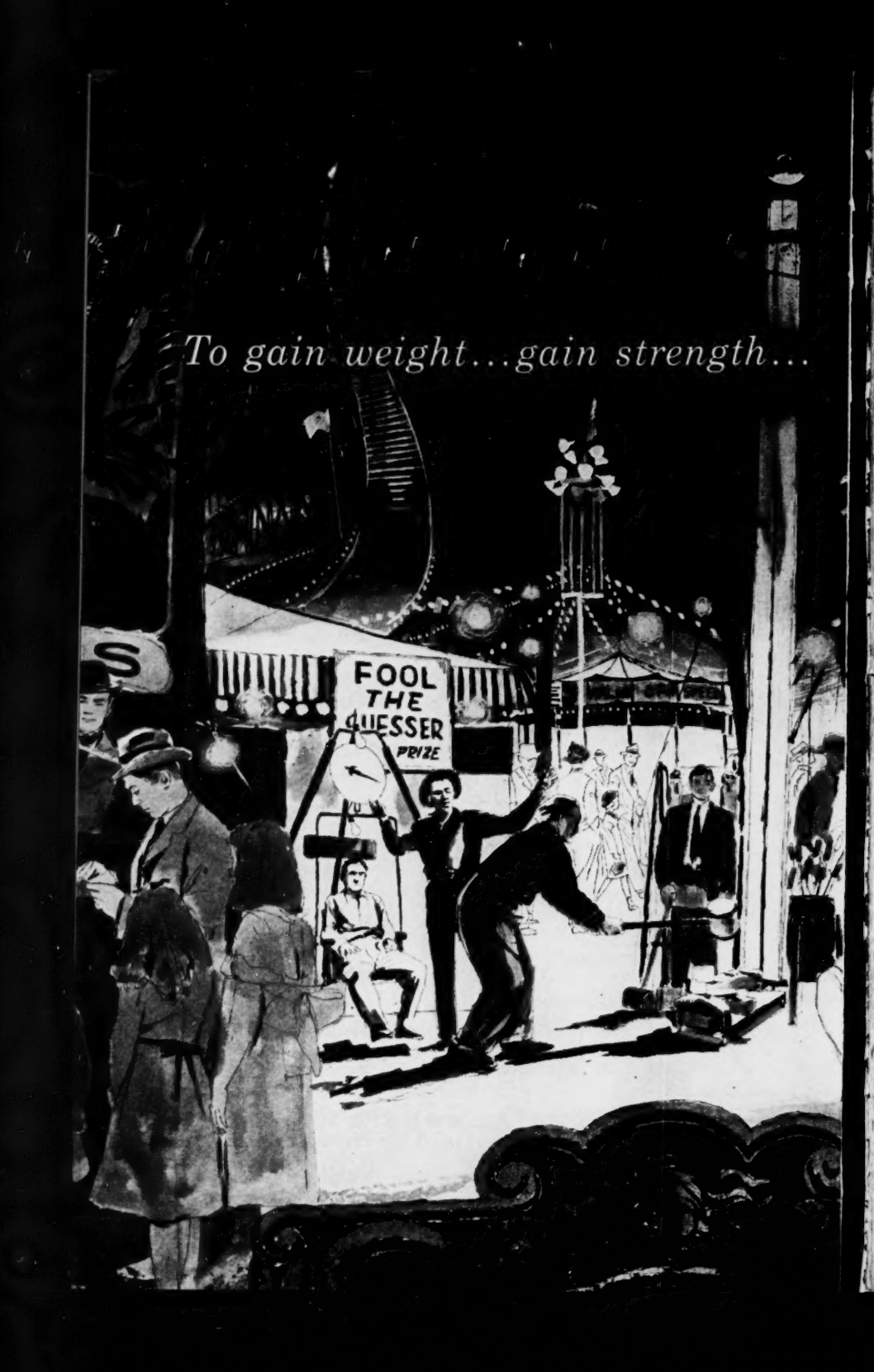
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EDIOL* furnishes 600 calories daily, when taken as 2 tablespoonfuls q.i.d. The unusually small particle size of EDIOL (average, 1 micron) favors easy digestion, rapid assimilation.

For children, or where fat tolerance is a problem, small initial dosage may be prescribed, then increased to the level of individual capacity.

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Alcohol injection of an involved nerve gives temporary, nerve section permanent relief from neuralgia.

Treatment of Neuralgias of the Head

GEORGE S. BAKER, M.D.
Mayo Foundation, Rochester, Minn.

AMONG the outstanding contributions to the control of painful conditions during the past twenty-five years is improvement in the treatment of severe neuralgias of the head.

Neuralgia is presumed to be the result of a lesion of the central neuron if no other cause, such as tumor, localized infection, aneurysm, or structural defect, is found. Neuritis is caused by irritation or inflammation of the peripheral neurons.

The pain with neuralgia is sharp and intermittent. The pain with neuritis is continuous and is usually accompanied by tenderness, paresthesia, anesthesia, and, possibly, motor paralysis.

Because the fifth and ninth cranial nerves are the most often involved in neuralgia, George S. Baker, M.D., regards trigeminal and glossopharyngeal neuralgia as major forms of the disorder (see table).

HEAD PAINS

Major neuralgias
- Trigeminal neuralgia
- Glossopharyngeal neuralgia

Minor neuralgias
- Occipital neuralgia
- Postherpetic ophthalmic neuralgia
- Superior laryngeal neuralgia
- Sphenopalatine neuralgia (syndrome of Sluder)
- Tympanic neuralgia (syndrome of Reichert)
- Vidian neuralgia (syndrome of Vail)
- Geniculate neuralgia (syndrome of Hunt)

Other painful conditions
- Migraine
- Histamine cephalalgia
- Costen's syndrome
- Psychogenic pain
- Temporal arteritis
- Miscellaneous conditions

Trigeminal neuralgia usually occurs after the fourth decade. Excruciating paroxysms and jabs of pain affect the area served by one or more branches of the fifth cranial nerve, almost invariably on one side of the face only.

Injections of alcohol into the involved branches give palliation; section of the sensory root of the gasserian ganglion is used for permanent relief. One of 3 approaches is employed:

- Section through the temporal approach, the safest operation, is used for elderly patients. Recurrence is the least likely with this method, but keratitis and paresthesia are more frequent.
- Cutting the nerve close to the pons, though entailing a higher mortality rate and incidence of recurrence, allows exploration for

Treatment of painful neuralgias of the head. Journal-Lancet 72:525-529, 1952.

allergy

attacks all 3 components of the "common cold"

pain, fever

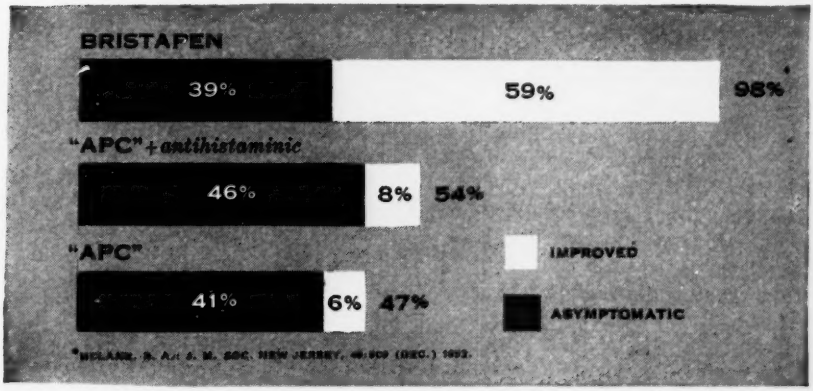
secondary bacterial infections

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Bristapen combines an antihistaminic, an analgesic-antipyretic, *and* an antibiotic–*penicillin*–for prompt control of rhinorrhea, muscular aches and pains, and prevention of secondary bacterial infection which so often prolongs and aggravates symptoms.

comparative effectiveness of Bristapen in the "common cold"*
Asymptomatic or improved after 72 hour treatment period



*MELAMED, S. A.: J. M. SOC. NEW JERSEY, 49:509 (DEC.) 1952.

Each Bristapen tablet contains:

Procaine penicillin G	100,000 units
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Aspirin	2½ gr.
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Dosage: 2 tablets t.i.d., 1 hour before or 2 hours after meals.
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aneurysms or tumors in the cerebellopontine angle.

•Severing the descending root in the medulla is used for healthy young patients, when motor division of the nerve must be spared. Recurrent pain is commonest with this approach, but ocular complications are few.

The pain of less frequent *glossopharyngeal neuralgia* occurs only in the region of the ears, pharynx, tonsils, and tongue innervated by the ninth cranial nerve. The trigger zone, mainly about the tonsillar fossa, can be stimulated by swallowing cold water. This pain reflex can be abolished by a 10% cocaine solution sprayed on the pharynx. The pain of tic douloureux is not modified by cocainization of the pharynx.

Intracranial section of the ninth cranial nerve brings relief of pain and anesthesia of half the pharynx, glottis, epiglottis, uvula, and tonsillar area. Concomitant section of the upper rootlet of the tenth nerve may be advisable.

Occipital neuralgia is usually unilateral. Starting invariably below the mastoid process, the pain extends over the side of the head and often centers behind the ipsilateral eye.

Block of the second cervical nerve with procaine hydrochloride relieves and helps establish diagnosis. Treatment is cervical traction, repeated injections, or rhizotomy of the second and third sensory cervical roots.

Postherpetic ophthalmic neuralgia, herpes zoster of the ophthalmic division of the trigeminal nerve, may respond to antibiotics if used early. Other technics include roentgen therapy over the geniculate ganglion early in the disease, injections of alcohol, and the avulsion of involved nerves. Sectioning of the posterior sensory root of the fifth cranial nerve and prefrontal lobotomy have also been used.

Superior laryngeal neuralgia can be relieved by sectioning the nerve distal to the ganglion nodosum, if injection of the nerve has eliminated the pain temporarily. When more extensive measures are required, intracranial section of the ninth cranial nerve with interruption of the uppermost rootlet of the tenth nerve will give permanent relief.

Sphenopalatine neuralgia is often relieved by injection of anesthetic agents into the sphenopalatine ganglion or cocainization of the posterior tip of the middle turbinate just above the ganglion with a 20% solution of cocaine. Cure or help for the pain is obtained by 2% solution of silver nitrate or 0.5% solution of formaldehyde applied to the same part of the nose. Desensitization is recommended for patients in whom attacks can be provoked by histamine.

Tympanic neuralgia is permanently abolished by section of the ninth cranial nerve.

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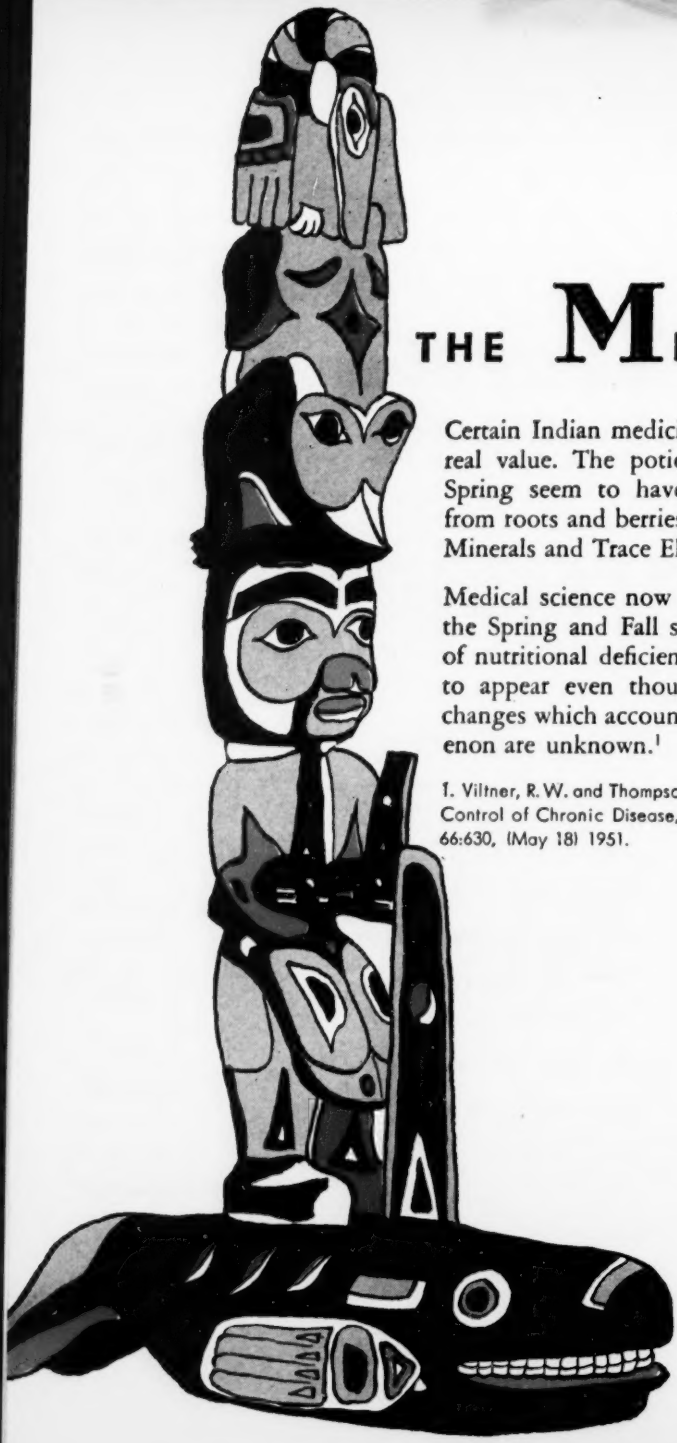
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1. Viltner, R. W. and Thompson, C.: Nutrition and the Control of Chronic Disease, Public Health Reports, 66:630, (May 18) 1951.

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Medical Forum

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Status of Cerebral Lobotomy*

QUESTION: What is the place of lobotomy in psychotherapy?

Comment invited from
Charles H. Jones, M.D.
M. C. Petersen, M.D.
Frank Turnbull, M.D.
Charles J. Lemmon, Jr., M.D.
Joe E. Freed, M.D.
Harry C. Solomon, M.D.
Burness E. Moore, M.D.
Herman B. Snow, M.D.
C. Knight Aldrich, M.D.

► TO THE EDITORS: From August 1947 until June 1949 Dr. James G. Shanklin and I had an opportunity to supervise the psychosurgery program at Western State Hospital, Fort Steilacoom, Wash. During this period Dr. Walter Freeman's method of transorbital lobotomy was used in about 125 cases and a modified version of Dr. Lyerly's method of prefrontal lobotomy was performed for about 100 cases.

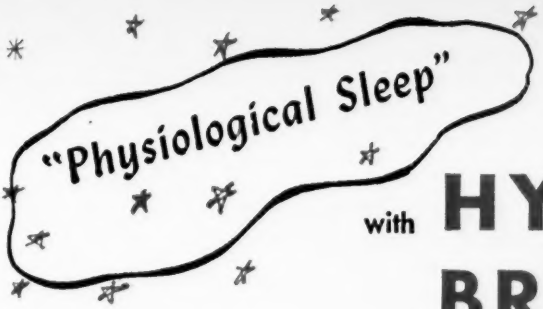
We were working full time treating psychotic patients, mostly schizophrenics, on an active state hospital service. There we came in contact with a large number of patients who had failed to hold improvement brought about by electroshock or deep coma insulin therapy. It was from this group that patients for both procedures were selected, transorbital lobotomy usually being the first choice. The trephine operation was used in those cases not benefiting from a transorbital lobotomy and the more chronic cases. We concluded that on the basis of study of 92 cases, transorbital lobotomy was simple and safe, and heartily recommended its use in an institution (*Am. J. Psychiat.* 107: 120-127, 1952).

In reference to the relation of lobotomy to psychotherapy, it is our experience that the operation alleviates any pressing need for a preoccupation with psychotherapeutic interviewing. Likewise, in schizophrenics, we do not feel justified in delaying the use of electroshock therapy, deep coma insulin, and ultimately transorbital lobotomy to temporize with the psychosis with psychotherapeutic methods.

CHARLES H. JONES, M.D.
Sedro-Woolley, Wash.

► TO THE EDITORS: As yet, there is considerable disagreement as to the role of prefrontal lobotomy. The reports are conflicting. Many talk about restoration of the patient to the prepsychotic state. This, of

*MODERN MEDICINE, Nov. 15, 1952, p. 127.



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course, is impossible when the patient may have been suffering from a mental disorder for more than thirty years. No amount of treatment, short of the Fountain of Youth, could restore any individual to the condition he or she was in thirty or forty years earlier, or even twenty years earlier. Mankind has, since time immemorial, hankered for the elixir which could do that. Since neither estrogens, androgens, nor the transplantation of glands has been able to do it, we could not expect it from a prefrontal lobotomy.

Again, memory at times is somewhat faulty. As we go through histories we find that two entirely different descriptions of a patient's personality might be given by different individuals, or even by the same individual at different times. Human nature being as it is might possibly influence the individual who reviews the history. There is always the tendency, unconsciously, to accept that which tends to confirm the reviewer's ideas.

Psychiatrists, or even neurologists, may be very objective in many respects. When it comes to the question of prefrontal lobotomy many tend to lose that objectivity. Emotional tones, or at least overtones, are very apt to be prominent.

I believe it is generally recognized that all surgery is mutilating. The final question to decide is whether or not possible benefits overshadow the drawbacks.

In doing prefrontal lobotomy we definitely intend to change the personality to some extent. The basic personality, in my opinion, has not been changed unless cutting has been too severe. The object we have in mind when we perform the operation is that of changing the reaction of the patient, except when it is done for relief of pain.

I take definite exception to the statements frequently made that the patient is changed or that the patient tends to become vegetative after the operation. This, of course, might occur if the cutting is too severe. We must keep in mind that although we talk about prefrontal lobotomy, it is not a single operation. The results will vary with the amount and location of the cut.

A year ago last summer I had an announcement from one of the patients on whom we operated that she was graduated from college with a B.A. degree. One of the first ones we operated upon taught school for a number of years after the operation. If a vegetating individual can graduate from college or teach school, there is something radically wrong with the educational system in these United States of ours.

M. C. PETERSEN, M.D.
Rochester, Minn.

► TO THE EDITORS: Dr. Freeman's case for lobotomy appears to be deliberately provocative and, for that reason, overstated. The remark that an active and conscientious lobotomy program can transform a lunatic asylum into an old peoples' home makes one wonder about his standards for the care of the elderly.

Most of his statements, when slightly toned down, conform to

general experience with this operation. His point about the slim chance of recovery for a schizophrenic after one year of conservative treatment in an institution is important. If lobotomy is to be made available at a stage in the disease when there is the greatest hope, the schizophrenic must not be allowed to drift along into the stage of deterioration before the decision for operation is made.

Dr. Freeman's claims for the transorbital operation on the basis of greater safety and requirement of fewer nursing personnel might be debated. The mortality rate for the standard operation when carefully performed by trained neurosurgeons should not be more than his 1.6% and can be less. If one has to be niggardly in the after-care program, end results will suffer. Where Dr. Freeman found that figure of 47% for the incidence of seizures following methods other than transorbital is of interest. It is a unique record that multiplies fourfold my concept of the hazard.

FRANK TURNBULL, M.D.
Vancouver

► TO THE EDITORS: From the surgical point of view we have had experience with lobotomy by the open prefrontal and the transorbital routes. In our hands the mortality, morbidity, length of convalescence, effects upon the personality of the patient, and incidence of convulsive seizures have all been greater with the prefrontal method. As a result we have abandoned the prefrontal method in favor of the transorbital route as the initial operation in practically all cases. If transorbital leukotomy does not control the symptoms, prefrontal lobotomy may be resorted to after reevaluation of the case.

In 139 cases operated on by transorbital leukotomy at the South Carolina State Hospital, the incidence of complications has been 0.7%. Discounting the "black eyes" which the vast number of patients get, there has been only one complication—an intracerebral hemorrhage. The patient, age 44 years, blood pressure 260/140 with generalized arteriosclerosis, had transorbital leukotomy using electroshock as anesthesia and suffered an intracerebral hemorrhage which was recognized and successfully evacuated. The patient recovered.

In all cases operated on, electroshock is used as the anesthetic agent. Transorbital leukotomy is performed during the unconscious period following electroshock convulsion. In a short time these patients are conscious and moving their extremities. In the event of an accumulating clot, it is evident to nurses that the patient is losing consciousness and developing hemiplegia.

In the general hospitals here, transorbital leukotomy under Pentothal anesthesia has been used in cancer patients and others with intractable pain in an attempt to relieve the pain. Also, in certain cases with psychosis in which electroshock was contraindicated, Pentothal anesthesia was substituted. When electroshock anesthesia was

(Continued on page 154)

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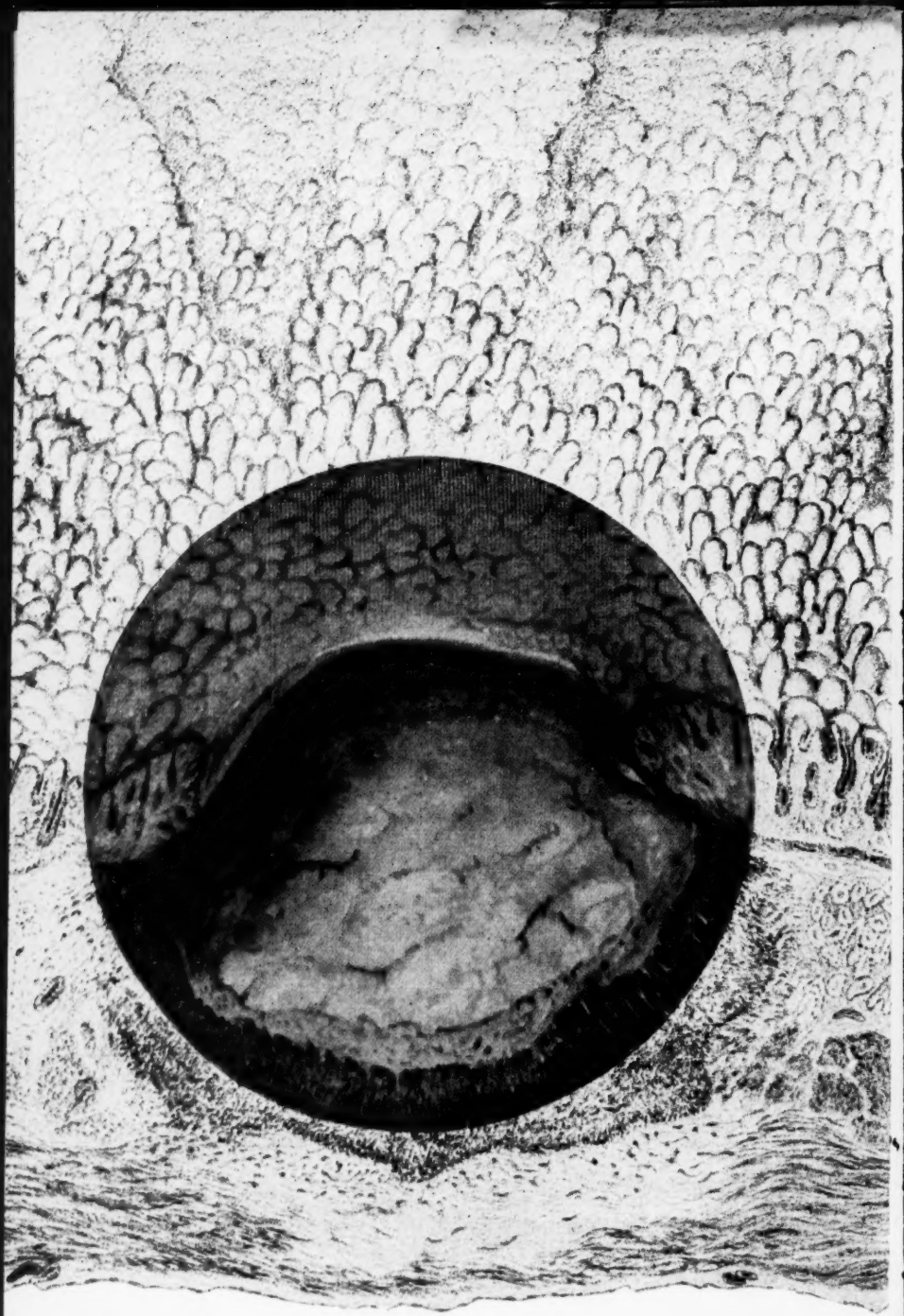
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used, the incidence of intracerebral hemorrhage at South Carolina State Hospital was 0.7%; when Pentothal was used as anesthesia for transorbital leukotomy in the general hospitals the incidence of intracerebral hemorrhage was about 30%. The Pentothal series does not give a clear picture as the number of cases was too small; there was a high incidence of elderly hypertensive and arteriosclerotic patients, and some were victims of malignancy.

We have noted that patients operated on by lobotomy for a psychosis have complained of headache postoperatively and that their skin seemed hypersensitive, as in other patients when blood is present in the subarachnoid space. It is believed that, to relieve a patient of organic pain, the nerve impulse from the involved region must be interrupted by chordotomy or alcohol injection. Leukotomy will then relieve the emotional or mental pain which frequently accompanies and overlays the organic pain. It is doubted that leukotomy will eliminate organic pain. It is believed that these two types of operations, one effective against the organic pain and the other against the emotional and mental pain, should be used in conjunction.

In cancer patients with metastasis the life expectancy is so short that two major operative procedures are not justified, as the patients are going downhill physically and the operations only hasten their downward course. We would like to suggest simple nerve injections with alcohol to remove organic pain—these should last for six to eighteen months—and transorbital leukotomy to remove emotional and mental pain. These procedures can be done quickly and easily.

Lobotomy has added a new therapy to psychiatry. True it is only a symptomatic treatment and one should never forget this fact. Some psychiatrists disapprove of lobotomy and say that to recommend the operation is to admit defeat. Thinking of the patient, is it defeatism to relieve tension, anxiety, or the agony of abusing hallucinations? We think not. One-third of the patients operated on, patients with no hope of recovery, are able to live outside of an institution. Many of them are gainfully employed.

We find that patients who respond well to electroshock therapy, only to relapse when treatment is discontinued, show good results with lobotomy. Lobotomy also helps the biting, kicking, destructive patient.

In a state hospital where appropriations are limited, lobotomy is a valuable aid. Chronically disturbed patients are more easily manned by the limited nursing personnel provided and injuries to other patients are reduced.

No patient was made worse by the operation. It is not a "kill or cure" operation as some would have us believe.

Cases should be carefully selected. If this is done, gratifying results can be expected in patients who otherwise face a very unhappy future.

CHARLES J. LEMMON, JR., M.D.
JOE E. FREED, M.D.
Columbia, S. C.

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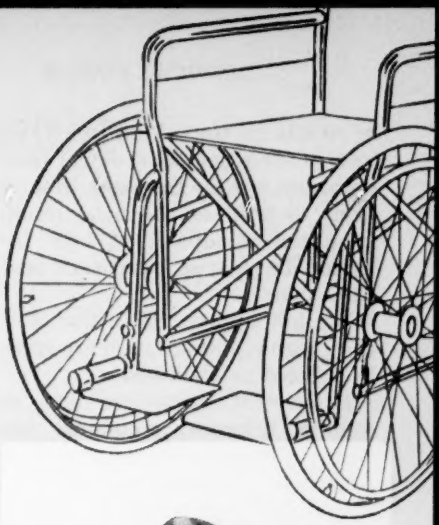
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► TO THE EDITORS: Leukotomy will lead to some degree of defect from operation but, at the same time, is likely to produce beneficial results from the standpoint of total behavior. In general, experience indicates that:

• Tension, apprehension, fear, concern, worry, and agitation are greatly reduced or abolished.

• Excitement, aggressive and assaultive behavior, emotional outbursts and rage-like exhibitions, although not infrequently intensified shortly after the operation, tend to diminish and disappear within a few weeks or months.

• Paranoid ideas tend to lessen to the vanishing point or, if continued in an attenuated form, cease to lead to overt expressions.

• Obsessive thinking becomes less distracting, compulsive actions no longer occur, and ritualistic behavior ceases.

• Longstanding hallucinations may lessen or lead to a lessened response; only rarely do they disappear entirely.

• Anergic states are occasionally transformed into states of greater activity but frequently are unchanged or activity may even be reduced.

Leukotomy is to be considered in several symptom complexes or disease categories.

The manic-depressive psychosis and involutional melancholia—Patients who have reached a state of chronicity, and who have failed to recover after having the benefit of the best available environmental conditions, psychotherapy, and convulsive shock therapy, should be considered good candidates for leukotomy.

Obsessive-compulsive neurosis—Patients who have had this syndrome for several years, with an increasing intensity of symptoms progressing toward a state of incapacity, or who are quite incapacitated and wholly miserable, may be considered as candidates for leukotomy. However, one should be reasonably sure that the patient has had the advantage of the best psychotherapy that can be made available before advising operation.

Schizophrenic psychosis—At this stage of our experience with leukotomy and in the present state of our knowledge concerning patients with this diagnosis, a reasonable conservatism should be maintained. A considerable proportion of patients recover or show remissions in the first year of illness. Convulsive shock therapy and insulin shock therapy, or both combined, add to the percentage of recovery and result in a quite satisfactory improvement rate. Few patients, however, recover spontaneously after being ill for more than a year. It may be assumed that after three years of illness the likelihood of recovery is very small indeed and such patients may then be properly considered for leukotomy. During the course of illness, there is a critical point before which the operation is worth while and after which it is not advisable. Sometime after twelve or eighteen months of properly treated illness, the best of psychiatric judgment should be utilized to consider the desirability of leukotomy.

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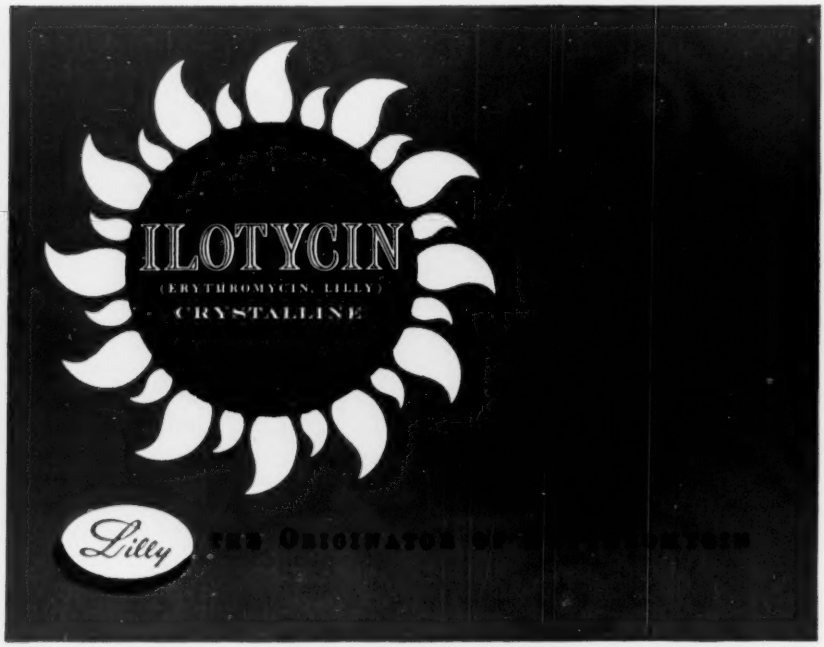
Paranoid psychoses—The best results from leukotomy are, as a rule, to be observed in chronically ill patients suffering from paranoid psychoses for whom psychotherapy and other therapy appear to have failed. Patients whose paranoid systems are very well organized and who maintain good contact with reality tend to make a good readjustment after the operation. Individuals who are disorganized in their thinking processes and subject to vivid and continued auditory hallucinations tend to have a less satisfactory outcome.

Psychosis associated with organic disease of the brain—Patients within this group appear to benefit rarely if at all from leukotomy.

Epilepsy—It appears that psychoses associated with epilepsy may be considered for operation on the basis of mental symptoms without undue concern about the convulsive diathesis.

Psychopathic personality—There seems to be no strong evidence that leukotomy will greatly benefit the psychopath. In fact, some patients with a bad psychopathic history may be even less inhibited after the operation.

Intractable pain—Leukotomy presents the possibility of affording relief from intractable pain such as that caused by tumor masses, tabetic crises, tic douloureux, and similar conditions. If less mutilating procedures are inadequate,



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leukotomy then may well be considered.

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HARRY C. SOLOMON, M.D.
Boston

► TO THE EDITORS: Frontal lobotomy now has an established place in psychiatry largely for pragmatic reasons. It brings about social recovery or marked improvement in an appreciable percentage of severely disturbed mental patients when all other therapeutic measures have failed. It is a relatively simple neurosurgical procedure with a low mortality. It is potentially available to large numbers of patients wherever neurosurgical facilities exist. Finally, the results are largely independent of psychotherapeutic efforts which require highly trained personnel and great expenditure of time. Lobotomy programs reduce the isolation of the mental hospital through the collaboration of psychiatrists and specialists of other medical disciplines in a common scientific effort.

Lobotomy remains a measure of last resort because of fear of irreparable damage to the patient's personality which is sometimes the price paid for behavioral improvement. The changes attributable to

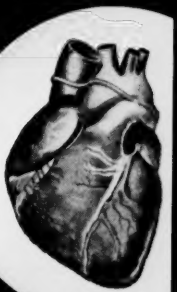
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the operation include immaturity, irresponsibility, increased dependency, lack of emotional warmth, and an inability to use the higher mental functions in imaginative and creative work. The more extensive the operative damage to the frontal lobes the more severe the symptoms are likely to be, but other factors less clearly understood also appear to influence the development of the aforementioned undesirable sequelae.

Untoward effects, arising in a small percentage of patients after operation, are more than offset by the disappearance in 75% of patients of impulsive, overactive, aggressive behavior, suicidal attempts, and refusal of food. Even when patients cannot be discharged, the problems of care are lessened for the hospital staff. Imaginativeness and creativeness are not qualities necessary to productive life for most people, so that their loss as a result of operation is not so great as might be thought. In a group of severely ill schizophrenic patients approximately one-fourth may be expected to resume previous employment and approximately one-half will be able to do useful work after lobotomy.

Without lobotomy, less than 4% of patients are able to leave mental hospitals if they have not had a remission within the first two years as a result of psychotherapy, electroshock, or insulin therapy. The longer a patient has been ill, the poorer the results to be expected from lobotomy, but on a statistical basis the prognosis does not become significantly worse until after a patient has been hospitalized three to five years.

This means that while operation should not be delayed indefinitely, there is no need for precipitate haste. Time exists for adequate diagnostic study, observation of trends, and trial of other less damaging forms of therapy. That this preliminary is important is indicated by the difficulty in differentiating certain types of neuroses from schizophrenia in the early stages. Ideally, every patient should have such evaluation and trial of all other forms of therapy, but each case must be considered in terms of the duration of illness, the prospect for the future, and the availability and expense of other forms of treatment, such as intensive psychotherapy.

Modifications of psychoanalytic technic offer greater hope of successful treatment of schizophrenic patients than in the past but the time required for treatment must be measured in years, and the expense and lack of trained therapists make such therapy a theoretic rather than a practical consideration for most families. For the majority of patients with schizophrenia who have not responded to supportive psychotherapy, electric shock, or insulin coma treatment after two years of intensive treatment effort, some form of psychosurgery offers the only hope of even a partial social recovery.

Similarly, for manic-depressive disorders with frequent episodes and particularly for the agitated depressions such as involutional melancholia, where suicidal danger is



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greater and electroshock therapy has failed, there can be no question as to the indication for psychosurgery.

There is much more dispute about advisability of psychosurgery in the case of the psychoneuroses. There is no doubt that lobotomy will give considerable relief from anxiety, depression, phobias, hysterical conversion symptoms, and psychosomatic complaints, but for these conditions psychotherapy is effective, and the price in personality change paid for the relief from symptoms is too great to warrant the sacrifice.

Lobotomy has been most widely advocated for the obsessive-compulsive neuroses, which are notoriously resistant to all types of therapy, including psychoanalysis. These patients are relieved of their anxiety and tension and often experience considerable amelioration of their obsessive-compulsive symptoms, but the improvement may be at the expense of the comfort of the family. Previously repressed hostility now finds expression for a time in overt aggression toward the family which may be well-nigh intolerable. The change occurring in such patients seems to typify a general observation concerning the effect of lobotomy on patients; overt aggressive impulses are lost, whereas repressed or latent hostility is released, sometimes to the severe discomfort of the family. Fortunately, the behavior of these patients often improves with the passage of time.

Standard frontal lobotomy has the statistical experience of thousands of operations upon which to base a fair evaluation of results. However, there is an ever growing tendency to modify the lobotomy procedure and develop new types of brain operations. Topectomy, thalamotomy, and cortical undercutting appear to have some advantages over lobotomy in certain cases, but the indications for the diverse procedures now available are still problematic and the results uncertain.

Following psychosurgical procedures there is general agreement that intensive insight psychotherapy is largely ineffective because patients are not able to utilize it. However, supportive psychotherapy is valuable, and a period of close supervision, at first in an institution and later in a protected home atmosphere, may greatly facilitate the patient's rehabilitation. Criticisms, suggestions, and retraining are more readily accepted from interested outsiders than from the close members of the patient's family, who often have contributed in some measure to the patient's illness. Education of the family with respect to their attitudes toward mental illness and helpful suggestions in the care of the patient are advantageous, but intensive efforts to manipulate the family and change their relationships usually meet with failure because they do not consider themselves patients.

In the final analysis the postlobotomy patient must, and often does, adapt to the family, which cannot be expected to change to meet the patient's needs.

BURNESS E. MOORE, M.D.
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► TO THE EDITORS: I am somewhat more conservative than Dr. Walter Freeman. I feel that restless, obstreperous cases of schizophrenia should be treated with electroshock and perhaps insulin shock therapy before any thought of undertaking a lobotomy procedure.

It is true that shock therapies may cloud the symptoms and conceal the advance of deterioration in some cases, but it is my opinion that these cases also do not do well with lobotomy operations, and that after lobotomy the disease processes may advance, perhaps even more insidiously than after electroshock therapy.

Hyperactive and depressed patients do very well with electroshock. It is not our aim to transform a mental hospital into an old peoples' home. We prefer to return the patient to society in a useful position if at all possible.

A tremendously important factor is nursing care. Dr. Freeman mentions, only in passing, that transorbital operations require less postoperative care than major prefrontal lobotomy. It has been my experience that an active postoperative program of rehabilitation and reorientation is practically as important as the operation itself.

I believe, with Dr. Freeman, that lobotomy operations certainly have found a useful status in the treatment of mental patients, but I would prefer that shock therapies and psychotherapy be employed first and that lobotomy be done only after their use.

HERMAN B. SNOW, M.D.
Utica, N. Y.

► TO THE EDITORS: In some ways lobotomy might be compared to an amputation in the dark. It is an amputation in that it is irreversible and tissue is permanently destroyed; it is in the dark in that the degree of destruction and the effects on the psychosis or the personality cannot be predicted accurately. Although it frequently relieves symptoms, it may also precipitate serious social problems in patients who return to their families through reduction of their sense of responsibility to others and their defenses against acting out (*Am J. Psychiat.* 107: 459-462, 1950).

As amputation is resorted to only when all else fails, lobotomy also should be considered only when it is clear that treatment directed at the causes of the disturbance and conservative symptomatic measures have failed. Hasty resort to lobotomy often is justified by reports that the chances of success vary inversely with the duration of the illness. But, the same is true of electroshock, insulin, psychotherapy, and spontaneous recovery.

Long-term, carefully controlled follow-up studies of both personal and social adjustments are necessary before lobotomy can be evaluated adequately or recommended in early emotional disturbance; at present its established value seems to be primarily as a desperation measure in sufferers from intractable pain and chronically disturbed individuals for whom return to an average family milieu is not anticipated.

C. KNIGHT ALDRICH, M.D.
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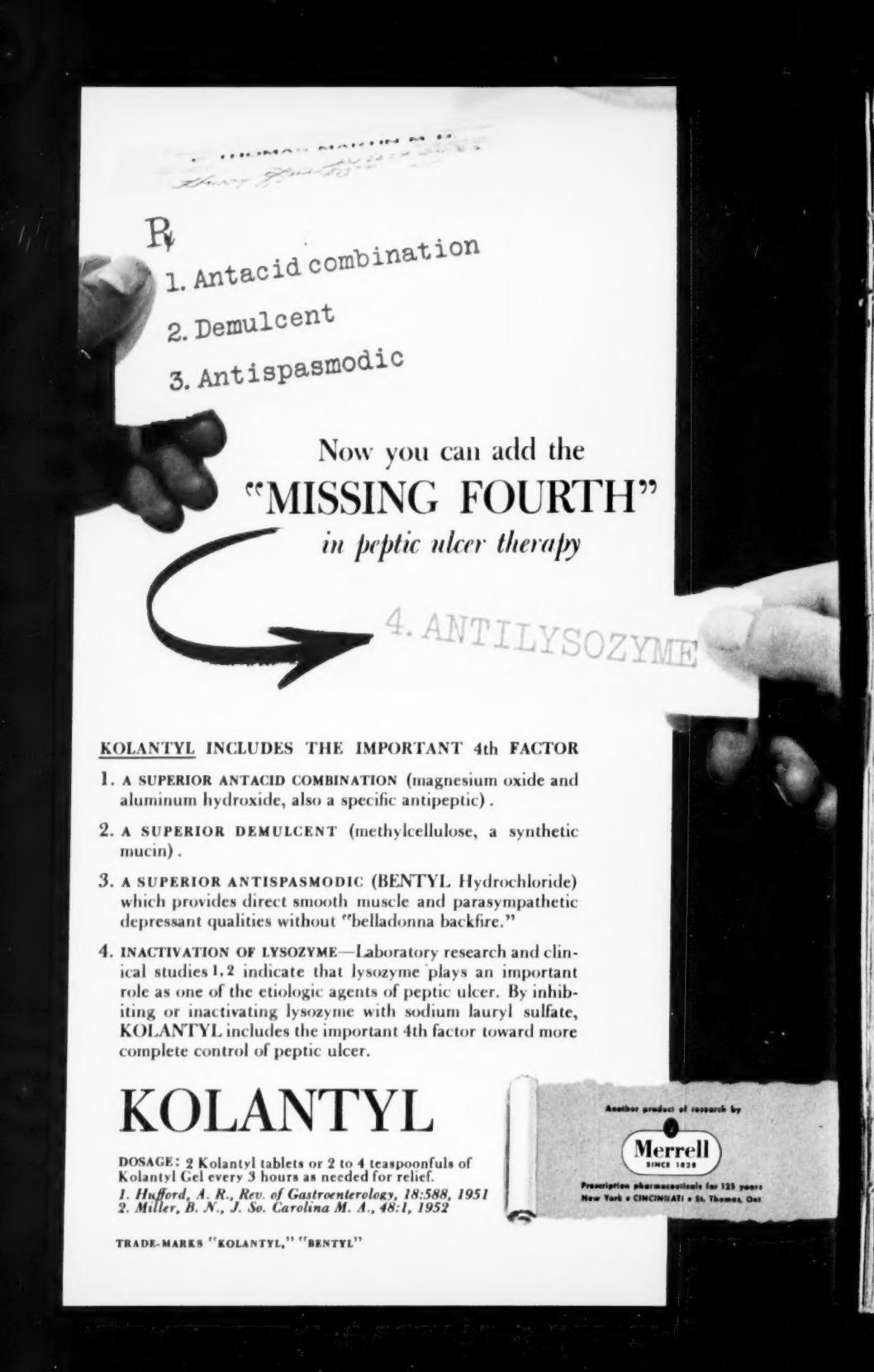
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2. Miller, B. N., J. So. Carolina M. A., 48:1, 1952

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Case MM-234

THE CLUE

ATTENDING M.D: We'd like you to see a 70-year-old woman on the medical ward. She was sent in with a diagnosis of cirrhosis of the liver, ascites, and pleural effusion. The illness began five months ago with gradual abdominal distention. Her blood pressure is 175/110, but the heart seems all right and is not enlarged on the roentgenogram. It was the film made on admission a month ago that revealed right pleural effusion. The roentgenogram made yesterday shows large bilateral pleural effusions.

VISITING M.D: Any masses?

ATTENDING M.D: No. We can't find a tumor. She lost about 25 lb. before the accumulation of fluid became so distressing. After paracentesis, careful palpation of the abdomen is unrevealing except for a firm liver edge 4 fingerbreadths below the costal margin.



VISITING M.D: Was it felt before the bilateral effusion?

ATTENDING M.D: Yes. I do not think it is just pushed down by the fluid.

VISITING M.D: Peritoneoscopy or liver biopsy?

ATTENDING M.D: No. On the first paracentesis 5 liters of yellow fluid were removed and some occasional cells which couldn't be identified. At first the pathologist thought they were tumor cells, but since they did not reappear in the subsequent dozen centrifuged paracenteses, he decided they perhaps were not neoplastic.

VISITING M.D: Any unusual cells in the chest fluid?

ATTENDING M.D: No.

PART II

ATTENDING M.D: She was extremely obese before she became ill this time. Roentgenograms of the chest and abdomen and results of gastrointestinal series and barium enema are normal except for the fluid.

VISITING M.D: Did fluoroscopic examination help?

ATTENDING M.D: The radiologist

seems to think that there are some pelvic adhesions about the right colon, perhaps to the ovary.

VISITING M.D: Any previous surgery?

ATTENDING M.D: No, none.

VISITING M.D: *(Examining patient)* I'm afraid I haven't much to add to what you have told me. I can't feel the spleen and the liver is not very firm. She had a paracentesis yesterday. Why do you think she has cirrhosis?

ATTENDING M.D: A long history of alcoholism.

VISITING M.D: How much a day?

ATTENDING M.D: About 6 bottles of beer a day for twenty-five years.

VISITING M.D: How does she eat?

ATTENDING M.D: Always ate well, was always obese. Ran a restaurant. In fact, she was the cook.

VISITING M.D: This history of alcoholism is a red herring; certainly with adequate food intake, 6 bottles of beer a day is not enough to account for what we see here. Any whisky?

ATTENDING M.D: Never.

VISITING M.D: Any pertinent past history?

ATTENDING M.D: She's always been in good health.

VISITING M.D: Serum albumin?

ATTENDING M.D: On admission the serum albumin was 4.16 gm. and the serum globulin was 2.8 gm. per 100 cc. A week ago the albumin was 3.21 gm. and the globulin 3.11 gm. The rest of the laboratory work, as you can see, is of no help.

VISITING M.D: Let me see. *(Scans record)* Yes, you're right.

PART III

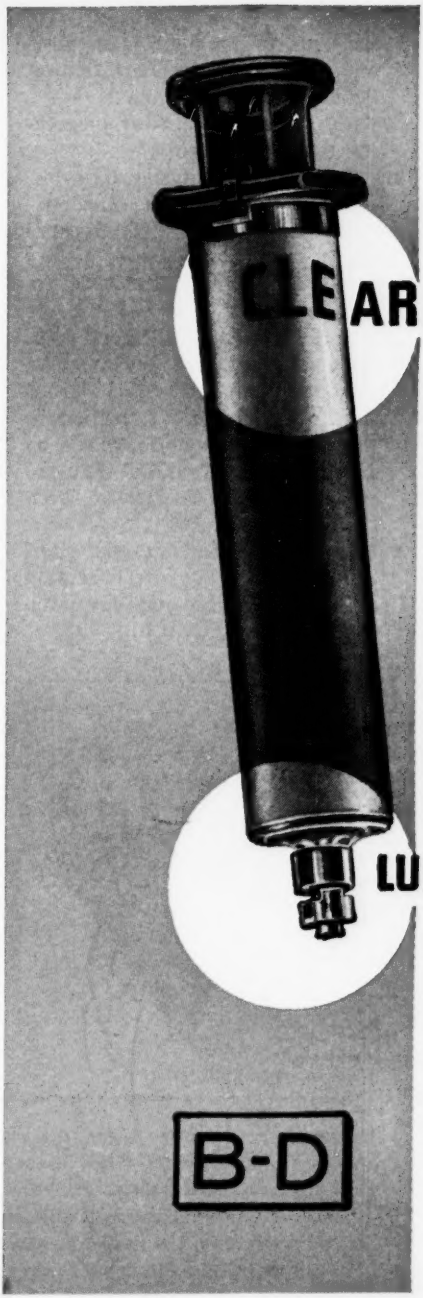
ATTENDING M.D: Do you think a liver biopsy or peritoneoscopic study is indicated?

VISITING M.D: I think laparotomy is in order. I think that the liver biopsy would be normal, or at least not cirrhotic. But we ought to look over the surface of the liver and the entire peritoneal cavity. In addition, I am particularly interested in what the radiologist noted in the pelvis. This would be a remarkable radiologic revelation, if the evidence, as I put it together, is correct. I would like to do a pelvic examination in the other room, where she can be on the table. *(Examining patient)* I believe the right ovary is enlarged.

PART IV

VISITING M.D: *(To Attending M.D. on operating floor while the surgeons scrub)* I believe this is a case of Meigs's syndrome, associated with malignant neoplasm of the right ovary. It is important to recognize the syndrome; removal of the tumor causes disappearance of the effusions. Often the presenting symptoms are diagnosed as heart failure or cirrhosis of the liver, both of which may be associated with ascites and hydrothorax. I think that at the very start peritoneoscopy should have been used and, if unsatisfactory, laparotomy. However, I suspect that the cells the pathologist saw were indeed tumor cells and that the tumor had spread at that time.

SURGEON: *(Opening the abdomen)*



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I don't understand the effusions in Meigs's syndrome.

VISITING M.D: You and the rest of us. No one seems to have a suitable explanation. There are theories of hypersensitivity, irritants, pressure on the abdominal lymphatics, alteration in blood protein, but none of these is satisfactory. It is possible that adhesions and degeneration of the tumor produce the ascites, but the explanation of the hydrothorax is more difficult. It is speculated that cells or some chemicals pass through the diaphragmatic lymphatics, but I'm not satisfied with that explanation. What passes, and to which side, and why? Massive hydrothorax does not occur with ascites, apart from this syndrome and some cases of cirrhosis of the liver, unless there is an obvious cause such as heart failure, nephritis, or carcinoma.

ATTENDING M.D: But your speculation is carcinomatosis?

VISITING M.D: Only because of certain peculiarities here. The syndrome may occur with fibroma of the ovary.

SURGEON: The right ovary is replaced by a cystic tumor measuring 10 by 10 by 10 cm. It is an irregular, dark red, friable mass, loculated and containing serous fluid. The tumor is attached to the pelvic colon and covered by a whitish membrane. I find no secondary deposit in the peritoneum.

PATHOLOGIST: *(Walking into operating room)* The frozen section is a degenerating papillary adenocarcinoma.





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ERNEST BRUCH, M.D.
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Historically, the milestones on the road to insulin discovery by the Toronto group were Claude Bernard's experimental production of hyperglycemia and glycosuria, and permanent diabetes produced by the total pancreatectomy of Minkowski and von Mering.

Extraneous insulin may cause a fall in liver glycogen in a healthy animal. This is probably due to the physiologic priority of muscle for available glucose after accelerated metabolism of glucose, causing secondary hypoglycemia, and, thus, liver glycogenolysis.

Isotopic tracer technics show that in normal rats 10 times as much injected glucose is transformed into fat as into glycogen. These studies raise doubts about the preeminence of glycogen as the body's reserve fuel.

Radioactive labels also show that fatty acids with 2 and 4 carbon atoms may be glucogenic, according to a review by Ernest Bruch, M.D. This provides evidence of the importance of the intermediary conversion of fat to glucose.

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The existence of an alpha cell hormone in the pancreatic islets is postulated. Evidence is derived from the discovery that animals rendered diabetic but with intact alpha cells require more insulin than pancreatectomized animals.

Progress in insulin physiology. Journal-Lancet 72:516-517, 1952.

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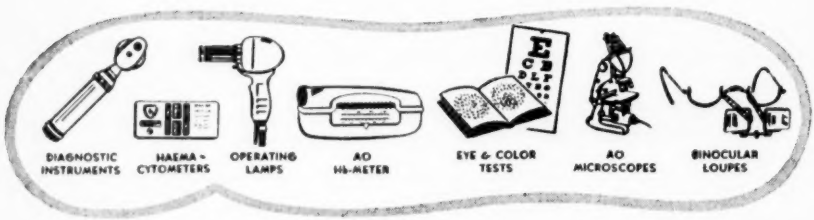
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LATE REPORTS *from Medical Centers*

★ NATIONAL CANCER INSTITUTE, Bethesda, Md.--Leukemia in mice is influenced by a maternal resistance factor, states Dr. L. W. Law. The MRF is contributed before birth by the mother mouse, low in tendency to get leukemia, and also may be transmitted post partum through the mother's milk.

★ UNIVERSITY OF MICHIGAN, Ann Arbor--Survival of a virus for thirty-five years without animal tissues to sustain it was revealed during renovation of a bacteriologic laboratory. The virus discovered in 1909 by Dr. Frederick G. Novy was rediscovered this year in a test tube. A fraction of a drop was found to be still deadly enough to kill a rat within a few hours. The rediscovered microorganism has been named the Novy rat virus.

★ UNIVERSITY OF CALIFORNIA, Berkeley--Pituitary secretions may be a factor in the development of some cancers. Drs. Henry D. Moon, Miriam E. Simpson, and Herbert M. Evans took 60 rats of the same strain and placed them into 4 equal groups. One group was given methylcholanthrene; another group was given none. A third group was given the carcinogenic chemical two weeks after pituitary gland removal. The fourth group had pituitaries removed but did not receive methylcholanthrene. Tumors developed in 12 rats of the first group, in none of the second, in one of the third, and in none of the fourth.

★ UNIVERSITY OF PENNSYLVANIA, Philadelphia--Severe pain in the terminal stage of cancer of the head and neck may be relieved by injecting novocain into the frontal lobe of the brain. Only patients with short life expectancies were given the treatment by Drs. Francis C. Grant and Frank E. Nulsen, but in all cases pain was completely controlled and the patients remained in command of mental and physical faculties until death, in some cases as long as nine weeks after injection. Repeat injections can be made if necessary with no more discomfort than that involved in an intravenous injection of glucose.

★ STANFORD UNIVERSITY, San Francisco--Cancerous growths in mice have been slowed down by including furan derivatives in the diet of the animals. Furan is a colorless liquid obtained from peanut shells. Drs. Windsor C. Cutting and Robert H. Dreisbach chose a strain of mice in which a high incidence of spontaneous breast cancer occurs. Of mice receiving furan for one year, only 2 of 7 had tumors in about ten months. Of the untreated mice, 23 of 24 had tumors in eight months.

LATE REPORTS *from Medical Centers*

★ HARVARD UNIVERSITY, Boston--Prognosis for patients with pemphigus is improved by treatment with corticotropin or cortisone. In severe cases dosage should be 30 to 60 mg. of corticotropin, intravenously, for either eight or twenty-four hours a day, says Dr. Walter F. Lever. If dosage is adequate, new lesions cease to form in pemphigus vulgaris and in pemphigus vegetans within four to seven days. Response in pemphigus foliaceus is likely to be slower. Several weeks of treatment are required to bring about healing of existing lesions. The beneficial effect is temporary and administration of corticotropin or cortisone should be continuous or in courses at spaced intervals to prevent relapse.

★ UNIVERSITY OF CALIFORNIA AT LOS ANGELES--Leptonin, a substance made from desert parsley and a remedy used by primitive Indian tribes for many ailments, may be helpful in controlling disease-causing fungi. Daniel Johnson reports that leptonin is more effective against coccidioides fungus than are the currently available antibiotics. So far the substance has been tried only in vitro. Animal studies are planned to evaluate the therapeutic efficacy of leptonin.

★ ST. LOUIS UNIVERSITY--The problem of virus reduplication is intimately related to the origin and nature of life and probably also to the future control of malignant disease, declares Dr. Henry Pinkerton. Viruses show a wide range in size, shape, chemical composition, and biologic properties. Factors which influence viral multiplication all cause alterations in the enzymatic pattern of the cell. Viral causation of cancer, however, is highly controversial.

★ UNIVERSITY OF INDIANA, Bloomington--Stimulation of the endocrine glands of the body is an effect of antibiotics reported by Dr. W. R. Breneman. Antibiotics given to chickens not only quicken the growth of endocrine glands but also cause an increase in the secretion of hormones.



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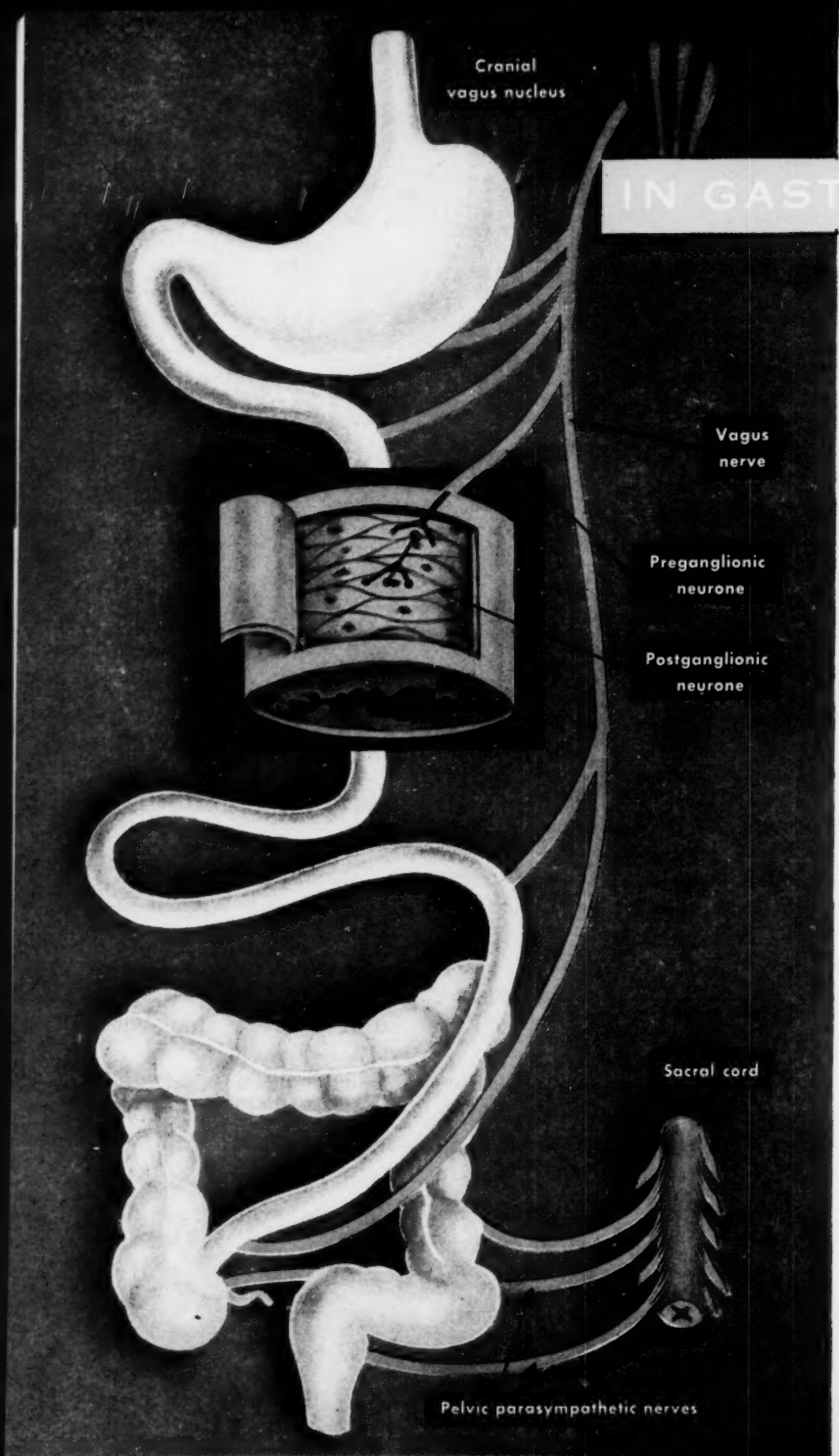
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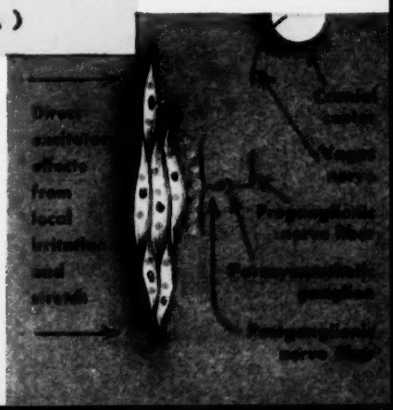
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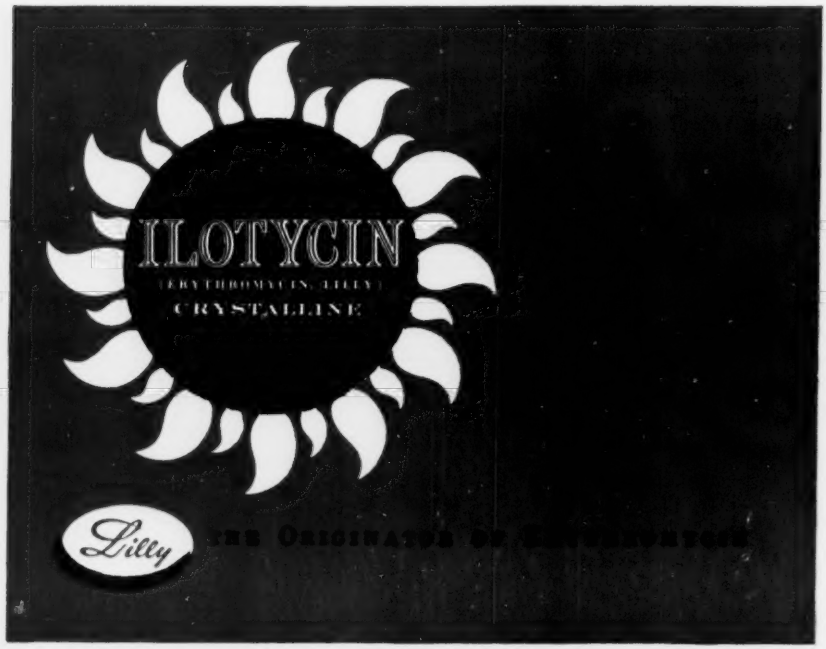
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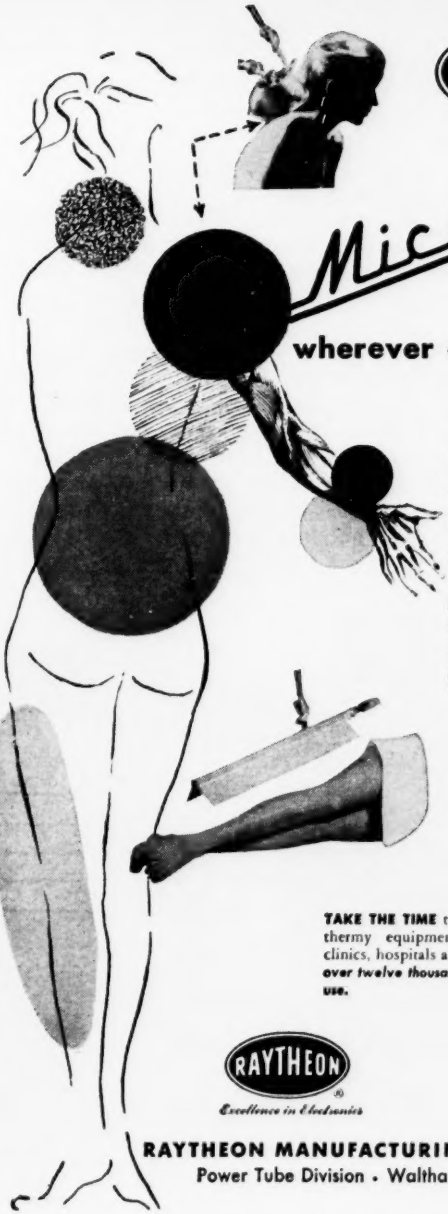
GERMANY

Intratibial Infusion. Parenteral administration of solutions, plasma, and blood may successfully be done for an infant by the intratibial route when accessible veins cannot be found. Plasma, blood, and other solutions readily enter the circulation from the tibia through the femoral and saphenous veins, say Drs. G. Erdmann and J. Becker of the University of Halle, Germany. The defect produced by the needle in the bone cortex is not roentgenologically detectable after one to four weeks.

Stellate Block for Edema. Right stellate ganglion block is effective in treatment of pulmonary edema. Drs. A. Pierach and K. Stotz of the City Hospital, Bad Nauheim, Germany, report swift relief with the procedure in several cases of pulmonary edema after other means had failed.

Results are spectacular in cardiac decompensation edema as well as in pulmonary edema caused by fear or stress. The mechanism of action is believed to be diminished capillary permeability from block of the sympathetic. The status of the autonomic nervous system is im-





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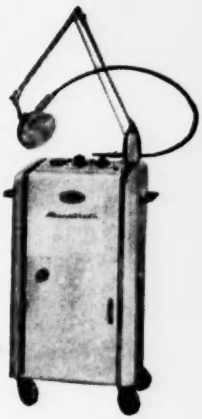
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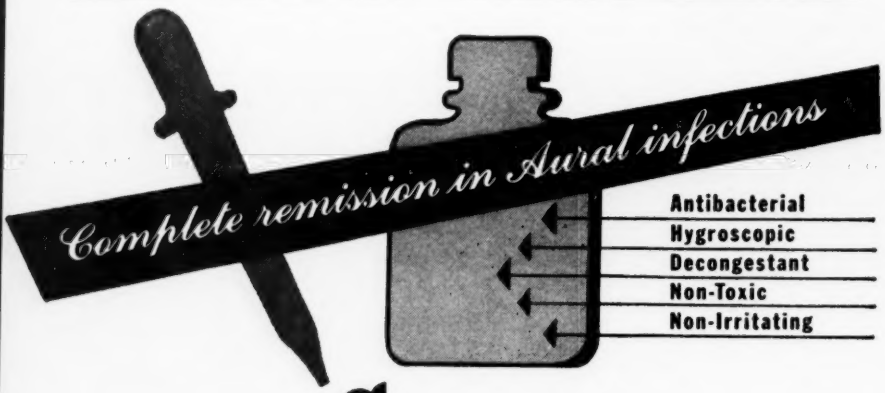
portant in producing pulmonary edema, since fear, excitement, and anger are often the triggers, especially when cardiac reserve is poor.

Inhalation of Conteben for Tuberculosis. Since best results with Conteben in treatment of tuberculosis occur when the solution is brought into direct contact with the diseased focus, aerosol medication is effective for cavitary lesions.

Dr. Werner Mohnke of the City Hospital, Bielefeld, Germany, finds a particle range from 1 to 2 microns desirable. The patient receives 0.2 gm. by mouth daily and the same amount by aerosol. This produces an effective intrapulmonary concentration and adequate blood levels.

SWEDEN

Kidney Changes in Hyperparathyroidism. Renal calcinosis and lithiasis are common with hyperparathyroidism. Kidney changes are as frequent as bone alterations with the disease and, being irreversible, of much greater significance. Renal function is gradually lowered. The diagnosis should be reached as early as possible and nephrolithotomy should not be attempted before surgery on the parathyroids, observes Dr. J. Hellström of Stockholm. The first signs are usually polyuria and reduced concentration ability, followed by increasing renal hypertension, azotemia, and finally renal failure.



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BASIC SCIENCE *Briefs*

Metabolism

Cholesterol Synthesis

Hyperthyroid rats synthesize cholesterol more rapidly and hypothyroid rats synthesize the substance more slowly than do normal animals. The visceral cholesterol content of normal and hyper- and hypothyroid rats varies relatively little. Dr. Sanford O. Byers and associates of the Harold Brunn Institute, San Francisco, and the University of California, Berkeley, measure the speed of incorporation of tritium from body water into the cholesterol molecule. The technic permits demonstration of changes in the turnover rate of both visceral and blood cholesterol, regardless of the relative cholesterol concentrations.

J. Exper. Med. 96:513-516, 1952.

Biochemistry

Ascitic Fluid

Peritoneal surfaces can reabsorb large volumes of fluid in good health or disease. Not until the rate of inflow exceeds this capacity does ascites result, declare Dr. Theodore C. Prentice and associates of the University of California, Berkeley, and Highland-Alameda County Hospital, Oakland. The water content of ascitic fluid enters and leaves the peritoneal cavity at the rapid rate of about 40 to 80% per hour, as shown by injection of tritium-labeled water. Of 6 subjects observed, 4 had portal cirrhosis and 2 peritoneal carcinomatosis with ascites. Fluid may accumulate because of increased inflow or decreased outflow, influenced in turn by portal obstruction, dietary sodium, high or low serum protein, and other factors. Each must be considered quantitatively before response to therapy can be predicted.

Am. J. Med. 13:668-673, 1952.

Etiology

Ulcer and Adrenal Stress

The tensions of modern day life cause duodenal ulcer not through adrenal stress but by exciting the vagus nerves to increase gastric motility and secretion. At the University of Chicago, complete vagotomy of the stomach reduced gastric juice to practically normal levels in 98% of a large series of cases. Dr. Jose Ma. Zubiran and associates found that cortisone acts directly on gastric glands. In dogs, 100 mg. daily administered for two weeks to a month resulted in hypersecretion for seven to ten days after withdrawal. The stimulating effect was apparent in stomach pouches with and without vagal innervation and also in isolated pouches after removal of the antrum.

Arch. Surg. 65:809-815, 1952.



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1. Behrman, H. T., Combes, F. C., Bobroff, A., Leviticus, R.: Ind. Med. & Surg. 18:512, 1949.
2. Turell, R.: New York St. J. M. 50:2282, 1950.
3. Heimer, C. B., Grayzel, H. G., and Kramer, B.: Archives Pediat. 68:382, 1951.

CARBONATED BEVERAGES AND THE STOMACH-EMPTYING TIME OF HIGHBALLS

Alcohol increases gastric secretion of acid by local irritation as well as after systemic absorption.(1) In addition, there is retention of the acid within the stomach, resulting in acid "indigestion" on the one hand, and loss of alkali in the urine with ultimate systemic acidosis on the other.

Recent studies show in preliminary form that gastric acid secretion and retention due to alcohol can be lessened appreciably by carbonated beverages. This reduces loss of alkali and minimizes systemic acidosis, a factor in hangover.(2)

These results confirm older studies(3) that carbonation augments gastric contractions and shortens gastric emptying time. Recently(4) this increased speed of gastric emptying was corroborated by fluoroscopy.

These data indicate still further reasons why carbonated beverages are often preferred as vehicles for alcoholic drinks and are valuable where more rapid gastric emptying is desired.

(1) Littman, A., and Ivy, A.C., Study of Gastric Acidity in Man. Methods of Medical Research 1:269, 1948. Yearbook Publishers.

(2) Greenberg, L.A., August 2, 1952, to be published.

(3) Carnot, P., and Koskowski, Compt. rend. biol. 81:613, 1922.

(4) Lolli, G., Greenberg, L.A., & Lester, D., 1952 in press.

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short REPORTS

Nutrition

Mineral Deficiencies

Magnesium is apparently as important as potassium in the process of protein synthesis. Drs. Walter Menaker and Israel S. Kleiner of New York Medical College, N.Y., find that the unfavorable effect of a magnesium-deficient diet upon weight gain in rats is approximately the same as that produced by potassium lack, although muscle and viscera contain more potassium than magnesium.

Proc. Soc. Exper. Biol. & Med. 81:377-378, 1952.

Obstetrics

Erythroblastosis Fetalis Prevention

Cortisone appears to interfere with antigen-antibody reactions of the Rh type. Recent studies suggest that 100 mg. of cortisone daily from onset of labor to delivery and 75 mg. daily for one week post partum will present sensitization of Rh-negative mothers. In Rh-negative women previously sensitized to the Rh factor, 50 mg. of cortisone daily between the twenty-eighth and thirty-fourth weeks, and 100 mg. daily after the thirty-sixth week, may decrease hemolysis in the fetus and improve chances of delivering a healthy child. Drs. Oscar B. Hunter, Jr., and John B. Ross of the Blood Grouping Laboratory, Washington, D. C., determine the exact time of starting cortisone therapy by thorough study of maternal antibodies and previous pregnancies. Sensitized mothers should be considered for delivery at the end of the thirty-eighth week. Need for transfusion of the newborn should be determined by the Coombs test, since no anemia will exist if the mother has had cortisone prophylaxis. Cortisone therapy during the first week of life will mollify erythroblastosis and, in conjunction with exchange therapy, will save most erythroblastic infants.

South. M. J. 45:732-738, 1952.

Physiology

Prevention of Lipemia

Dihydrocholesterol suppresses hypercholesteremia and atherosclerosis when fed to birds maintained on a high-cholesterol diet. A blocking action by the closely related sterol is suggested by Dr. M. D. Siperstein and associates of the University of California, Berkeley, as the mechanism responsible for preventing high blood levels of cholesterol. Dihydrocholesterol efficiently controls plasma cholesterol and atherogenesis in birds, and is now being used in man.

Circulation 7:37-41, 1953.

Orthopedics

Bone Transplants

Autogenous iliac grafts are preferable to other osseous implants. From experiments in rabbits, Dr. Robert S. Siffert of Mount Sinai Hospital, New York City, concludes that autogenous transplants stimulate osteogenesis at the cut ends, guide the new bone across the defect, and supply protein utilizable by the invading osteoblasts. The possession of circumferential lamellae prevents the formation of dense connective tissue occurring with shave grafts, and the simple vascular structure eliminates the resistance to revascularization and remodeling observed when large tibial segments are used.

New York State J. Med. 52:3021-3024, 1952.

Experimental Surgery

Intestinal Abnormalities in Infants

Massive resection of the small bowel does not impair the growth or development of puppies. Extensive intestinal resection is generally avoided in infants, even when such a procedure might offer the simplest and, in the case of neoplasia, the only opportunity for cure. Experimental observations of Dr. H. William Clatworthy, Jr., and associates of Ohio State University and the Children's Hospital, Columbus, indicate that the surgeon may remove as much as 80% of the small bowel distal to the ligament of Treitz with assurance of reasonably healthy growth of the child. Puppies subjected to massive resection grow normally and have no hematopoietic or metabolic abnormalities. In these animals respiratory and enteric infections are frequent and a more important obstacle to survival than surgery. The mechanism of compensation for the surgical loss seems to be an increase in intestinal caliber and a hypertrophy of the villi, with reduction of intestinal motility. These changes result in a prolonged contact of the succus entericus with an enlarged mucosal surface area presenting a more effective absorptive capacity.

Surgery 32:341-351, 1952.

Ophthalmic Surgery

Intraocular Acrylic Lenses

Insertion of a methacrylate lenticula after extracapsular extraction for cataract often results in satisfactory vision without the disadvantages of the heavy spectacle lens used in correction of aphakia. Dr. Harold Ridley of London employs an intraocular lens made from Transpex I, a synthetic weighing half as much as glass and only 15% more than the aqueous fluid displaced. The specifications for the device are: diameter, 8.35 mm.; thickness, 2.4 mm.; anterior curve diameter, 17.8 mm.; posterior curve diameter, 10.7 mm.; and refractive power in aqueous (refractive index 1.33), 24 diopters. The lens is maintained upright between the posterior capsule and vitreous behind and the muscular iris with intact sphincter in front. Myopic patients and those under 12 or over 75 years are generally unsuitable.

J. Internat. Coll. Surgeons 28:825-833, 1952.

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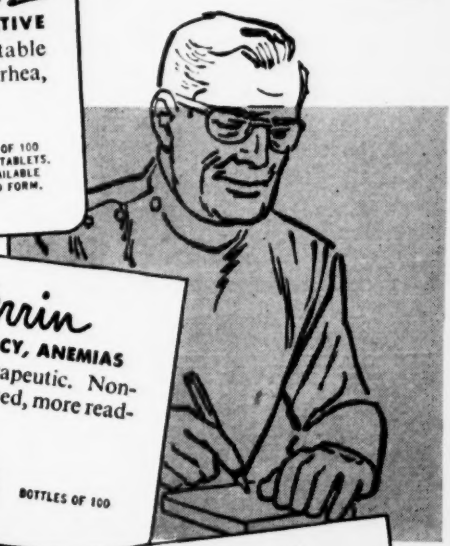
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Epidemiology

Antigenicity of Influenza Viruses

Influenza virus B is antigenically stable in contrast to strain A which changes antigenic pattern with each new epidemic. Cross agglutination-inhibition tests of 34 virus B specimens taken from 4 continents during 1952 influenza outbreaks reveal all strains of B to be related to each other and to the 1943 B viruses. Dr. W. A. Hennessen of the National Institute for Medical Research, London, supports the theory of the endemic and stable nature of the B virus. Strain A is spread from local foci to epidemic proportions, unlike virus B which causes endemic flare-ups simultaneously in distant parts of the world.

Bull. World Health Organ. 6:481-485, 1952.

Surgery

Gastric Mucin Test for Vagectomy

Complete severance of the vagus nerves results in a negative gastric mucoprotein response to insulin, but not to the administration of histamine. The meaning of the acid response to insulin of patients with combined vagectomy and partial gastrectomy is often obscure because neutralization by duodenal regurgitation, resection of the acid-gastrin mechanism in the antrum, and achlorhydria from postresection atrophy of the fundal area of the stomach, as well as severance of the vagi, may produce a negative result. Since vagectomy, partial gastrectomy, or the combined procedures do not ordinarily cause atrophic changes in the secretory cells, Dr. Walter L. Mersheimer and associates of New York Medical College, Flower and Fifth Avenue Hospitals, New York City, believe the mucoprotein response to be a reliable measure of vagectomy completeness. No conclusion concerning vagectomy is permissible, however, when negative mucin and acid responses to histamine and insulin are obtained. Such a result indicates that the humoral mediation of mucin and acid has been abolished by atrophic lesions of the gastric mucosa.

Ann. Surg. 136:668-679, 1952.

Gastroenterology

Relief of Ulcer Pain

A profound cholinergic blocking effect upon both gastrointestinal motility and gastric secretions is exerted by scopolamine-n-bromobutylate (SKF-1637). The drug is effective in relieving ulcer pain when administered parenterally. Dr. E. Clinton Texter, Jr., and associates of Duke University, Durham, N. C., report slight or no side effects following administration of SKF-1637. Doses of 50 mg. every six hours orally, or 20 mg. every eight hours parenterally for several days eliminate or decrease pain, and patients are symptom-free or improved for periods of two to three months. Of 37 patients studied to date, 33 are symptom-free or improved, 2 note no change, and 2 have become worse.

Am. J. M. Sc. 224:612-618, 1952.

Anxieties about feeding totaled 33 per cent



A record of complaints made by 100 mothers of normal newborn infants illustrates in striking fashion the extent to which baby's "eating and digestion" constitute a source of maternal anxiety. Of 178 complaints cited by Carithers,[1] a total of 58 (or 33 per cent) were concerned with problems related to feeding.

1. Carithers, H. A.: J. Pediat. 38:654 (May) 1951

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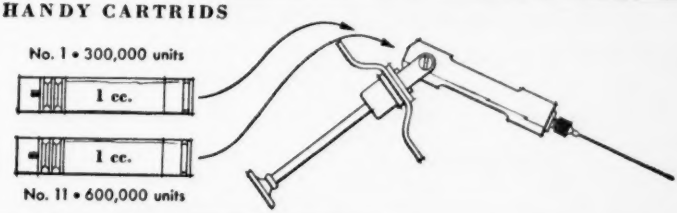
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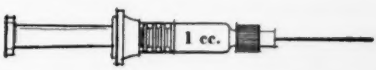
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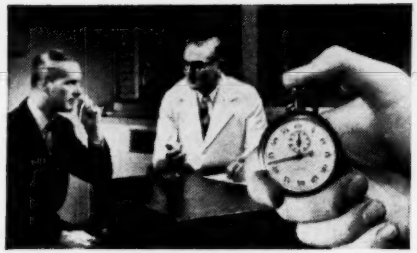
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1. Taylor, G.W.: Arch. Otolaryngol., 56:213, Aug., 1952.

Cardiology

Revascularization of Heart

Pedicled grafts of skin and subcutaneous tissue may provide the means for augmenting the failing blood supply of the heart. Dr. Robert E. Moran of Washington, D.C., and associates, New York University and Bellevue Hospital, New York City, find that, in dogs, free anastomoses develop between the myocardium and the extremity of a flap from the anterolateral chest wall implanted in the heart muscle. These communicating vessels can also help maintain cardiac function after ligation of the descending branch of the left coronary artery.

Plast. & Reconstruct. Surg. 10:295-302, 1952.

Toxicology

Antivenin Treatment

Large amounts of antibothropic serum, administered intravenously within two hours, will give a high degree of protection in severe snake bites caused by *Bothrops jararaca*. W. H. A. Schöttler of the Instituto Butantan, São Paulo, Brazil, observed mice injected with either *B. jararaca* or *Crotalus terrificus*. Immediate subcutaneous antivenin did not save every animal injected with the former venom but all survived the slower-acting *Crotalus* venom. In man, less severe *Crotalus* bites, fatal if untreated, may be cured if the largest amounts of anticrotalic serum injectable are administered by all routes as soon as possible after the bite. For severe *C. terrificus* bites, serum treatment would have a curative effect only in antivenin/venom proportions not applicable.

Am. J. Trop. Med. & Hyg. 1:1038-1042, 1952.

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Cardiology

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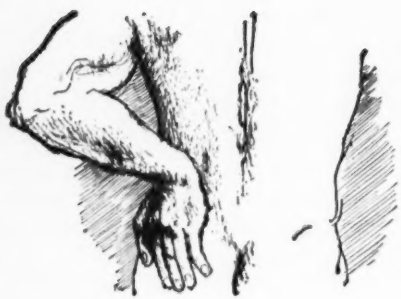
Low prothrombin levels for anticoagulant therapy of acute myocardial infarction are readily maintained with phenylindanedione. The drug appears to be effective in the treatment of thromboembolic diseases and has the advantage of a more transient, less cumulative effect than dicumarol and the 4-hydroxycoumarin derivatives. Prothrombin levels 10 to 30% of normal have been maintained for four to over one hundred days in 50 patients treated by Dr. William R. O'Connor and associates of Northwestern University, Chicago, and the Veterans Administration Hospital, Hines, Ill. An initial dose of 150 to 200 mg. of phenylindanedione orally usually reduces prothrombin activity to therapeutic levels within sixteen to forty hours. The maintenance dose is 50 mg. twice daily. Upon discontinuance of therapy, prothrombin times revert to normal in forty-eight to ninety-six hours. Preliminary studies indicate that a more rapid reversion may be accomplished with intravenous vitamin K. Toxic manifestations are limited to minor hemorrhagic phenomena such as melena, hematuria, and petechiae, controllable by omitting a single dose of phenylindanedione. Altered drug tolerance during therapy is not observed.

Quart. Bull., Northwestern Univ. M. School 26:193-196, 1952.

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Peel oil, cause of allergic response and poor tolerance, especially in infants,[4] is held to an arbitrary minimum in Minute Maid. Samples of home-squeezed juice expressed by typical housewives showed peel oil contents up to 700% higher.

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In view of the above findings, more and more physicians now specify Minute Maid Fresh-Frozen Orange Juice in lieu of home-squeezed orange juice.



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(2) *U. S. Department of Agriculture Technical Bulletin No. 753, December, 1940.*

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(4) *Joslin, C. L., and Bradley, J. E., Journal of Pediatrics, Vol. 39, No. 3, pp. 325-329 (1951).*

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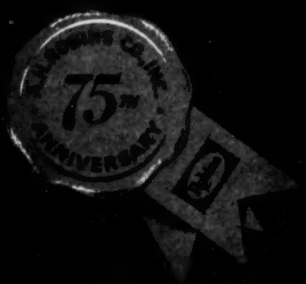
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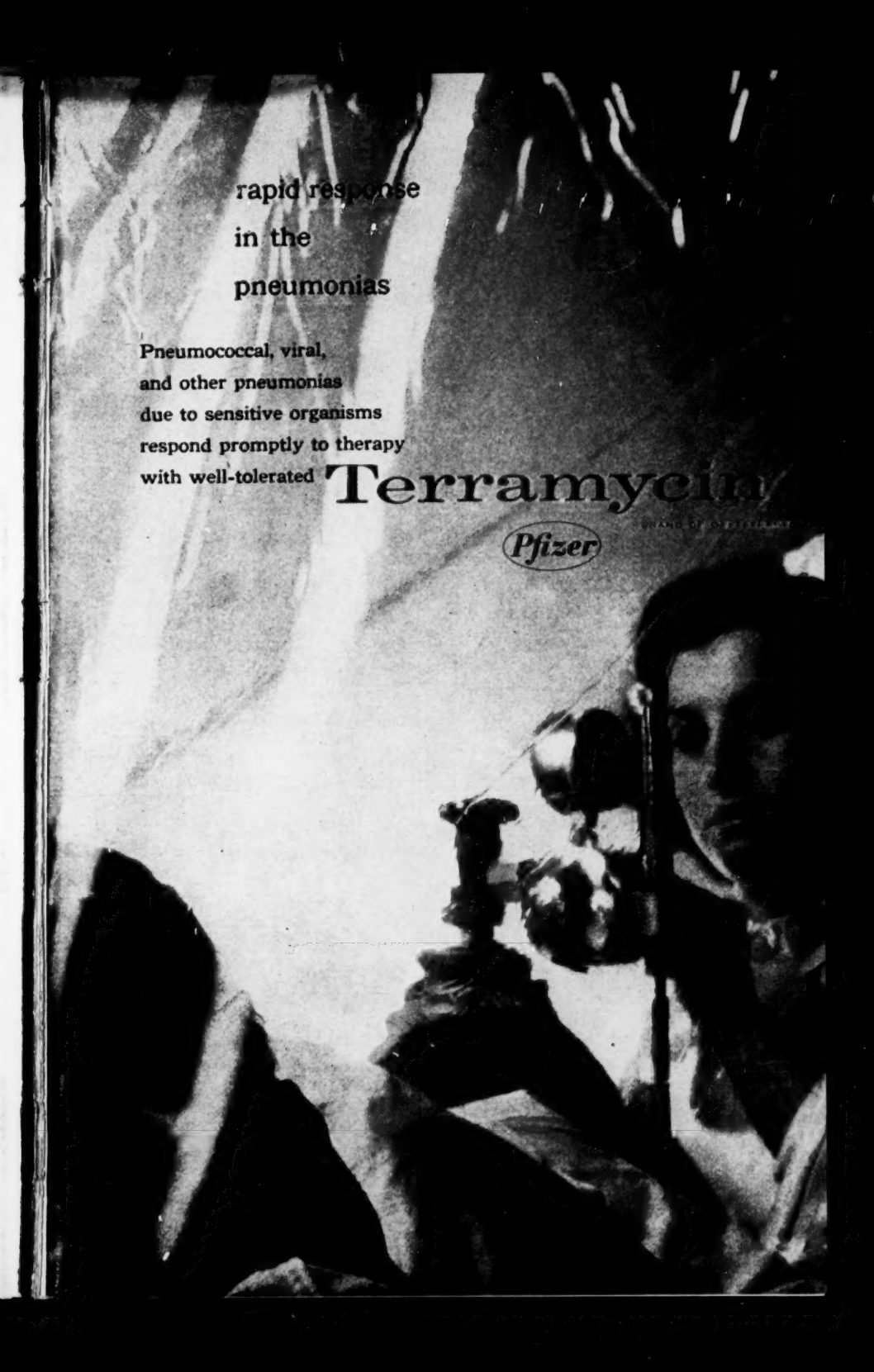











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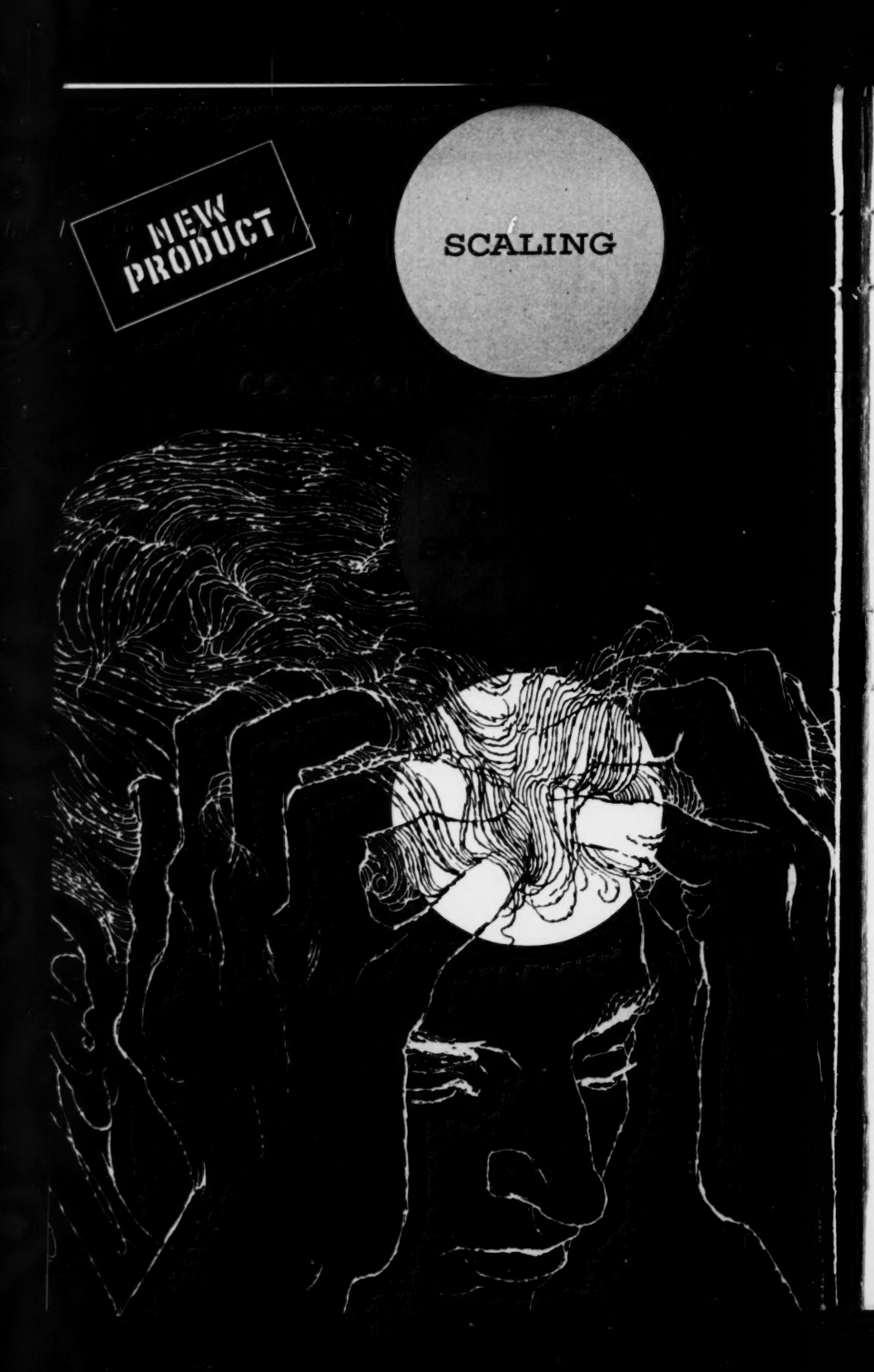
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J. Irish M. Assoc. 31:361-363, 1952.

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J. Michigan M. Soc. 51:1298-1302, 1952.



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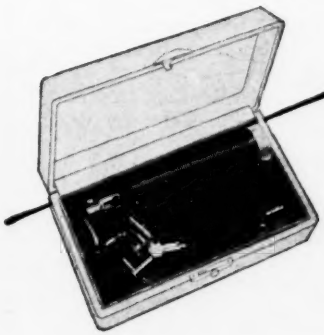
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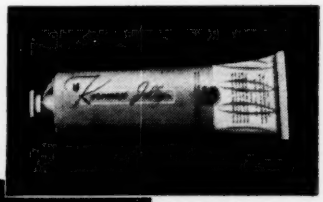
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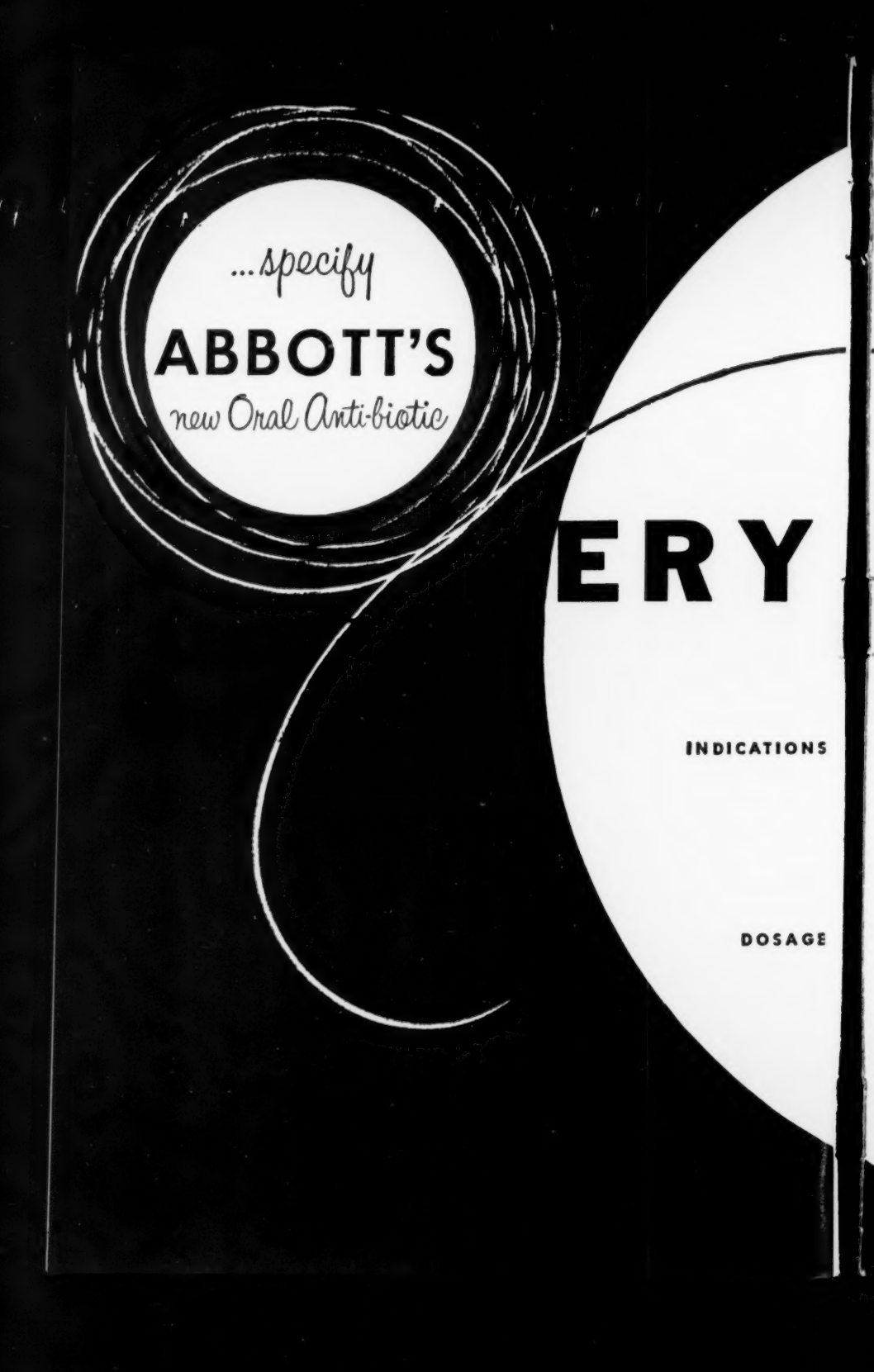
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Relative Values

I had just delivered a woman after a difficult forceps labor. The patient was just coming out of an unsatisfactory gas anesthesia. I felt a little morphine was called for and said to the nurse, "Give her a quarter."

The patient heard me and exclaimed pettishly, "Doctor, that was worth at least fifty cents!"—W.S.L.

The birth of a boy was announced by this telegram "Ma's features, pa's fixtures."—R.D.

De Gustibus . . .

One of my obstetric patients, about six months along, called to tell me her husband was home on furlough. She said coyly, "I'd like to know if we could have some fun."

"Certainly," I said with professional dignity, "go right ahead."

"Oh," she said quickly, "I don't mean *that!* We want to go to the beach and ride on the roller coaster!"—J.T.



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The New Anatomy

One of my infant patients recently swallowed a safety pin. His mother was a very excitable woman who kept a fascinated knot of neighbors informed of the details as the pin's progress was followed on its journey with serial roentgenograms. Finally the pin was located deep down in the intestines and I heard the mother excitedly report to the cheering section, "It's O.K! The doctor found the pin deep down in the testicles!"—J.P.

Just a Beginner

In my early days, I often found it difficult to command the respect of my more elderly patients. One woman in particular, who came to the office complaining of heart trouble, balked at removing encumbering garments.

"But I have to listen to your chest," I said patiently.

"Humpf, Dr. Blank never even made me take my coat off," she said petulantly.

I smiled, and replied softly, "Well, I'm not that good yet."—D.S.

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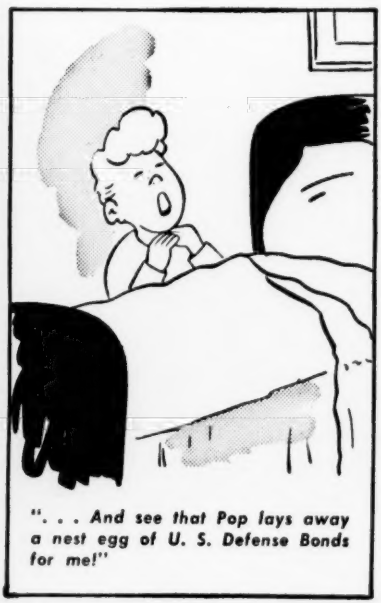
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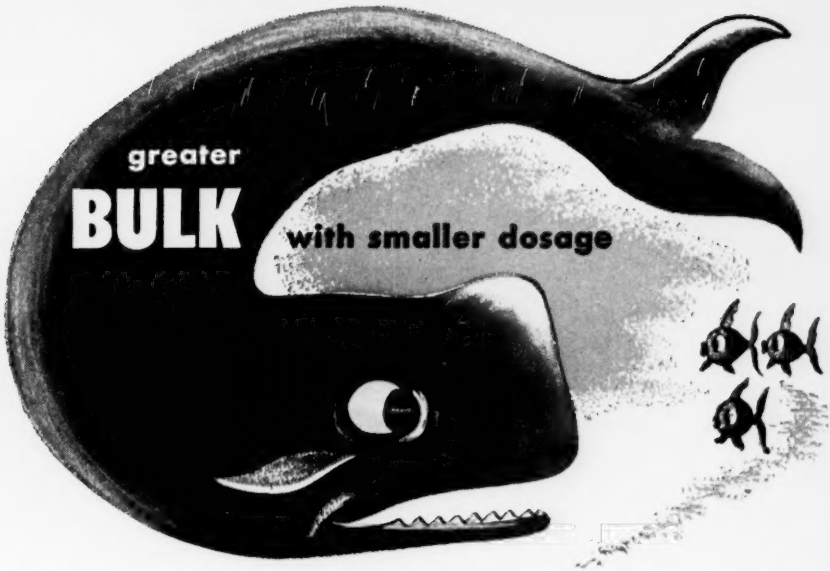
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